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FIRST STEPS IN ARITHMETIC.

Part I.

GRADED LESSONS IN NUMBER.

BY

WILLIAM M. PECK,
HARRIETTE K. WILLIAMS AND MARY S. WARLOW.

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A. LOVELL & COMPANY,
1900.

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HOW TO DEVELOP A NUMBER.

(6)

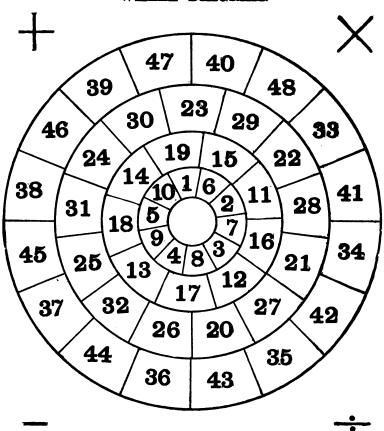
Use blocks, or any other convenient object, and separate them into 1's, 2's, and 3's, to show the following combinations, calling the signs + "and," × "times," - "take away," and + "measured by ":—

1 1 1 1 1 1	11 11 11	111 111
1 +1+1+1+1+1=6	2+2+2=6	3+3=6
6 1's are 6	3 2's are 6	2 3's are 6
$6 \times 1 = 6$	$3 \times 2 = 6$	$2 \times 3 = 6$
6 + 1 = 6	6 + 2 = 3	$6 \div 3 = 2$
6 - 1 = 5	6 - 2 = 4	6 - 3 = 3
6 - 5 = 1	6-4=2	3 + 3 = 6
1 + 5 = 6	2 + 4 = 6	$\frac{1}{6}$ or $\frac{1}{2}$ of $6 = 3$
		$\frac{2}{3}$ of $6 = 6$
		шш
† of 6 = 1	2+2+2=6	$1 \times 6 = 6$
$\frac{2}{6}$ of $6 = 2$	2+1+3=6	6 + 6 = 1
$\frac{8}{6}$ of $6 = 3$	1 + 1 + 4 = 6	6 - 6 = 0
$\frac{4}{6}$ of $6 = 4$	$\frac{2}{6}$ or $\frac{1}{8}$ of $6=2$	6 - 0 = 6
$\frac{1}{6}$ of $6 = 5$	$\frac{4}{6}$ or $\frac{2}{8}$ of $6 = 4$	6 + 0 = 6
# of 6 = 6	4 of 6 = 6	$6 \times 0 = 0$

- 1. How many sixths make the whole of any one thing?
- 2. If you cut an apple into sixths, how many pieces would you have?
- 3. How many thirds make the whole of anything?
 - 4. How would you find a third of 6?
 - 5. How many half-apples make a whole one?

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WHEEL DIAGRAM.



Draw the circles on the blackboard with colored crayons, using white for figures. For a class exercise, place any digit in the centre, with the sign indicating the operation. The teacher points to any number; the class, working mentally, give the results by individual statements. Let all work be done with quiet attention and rapidity.

GRADED PROBLEMS.

FIRST YEAR.

One. 1. I.

- 1. Lillie has a rosebush in her garden, with 1 little green bud on it; after a while the bud opened and showed all its pretty pink leaves. How many roses had Lillie on the bush?
- 2. Candy is 1 cent a stick. Johnnie's mother gave him a cent for going to the store for her; how many sticks of candy can he buy with it?
- 3. If you were going to make a wheelbarrow, how many wheels would you want for it?
- 4. Little Charlie's mother said she would fry all the fish he caught, for his supper. He caught 1, but in pulling it in, it jumped off the hook; soon after he caught another, but after trying all the afternoon, he did not get another bite; how many fish did he have for his supper?
- 5. If you had a big red apple, how many times could you give it away?

- 6. One snowy day, Max ran around the house once with his wheelbarrow; how many tracks did it make?
- 7. If you were playing marbles with a little boy who had but 1 marble, and you won it, how many would he have left?
- 8. Which holds the more, a quart or a pint measure?
- 9. Katie had a cent and bought a slate-pencil with it; how much money had she left?
- 10. If you had a cent and lost it, and then your mother gave you another, how many apples could you buy, if they were 1 cent each?

Two. 2. II.

- 1. Willie called his mother to see a robin in the plum-tree, and while they were looking, another flew in the tree; how many robins in the plum-tree now?
- 2. If you cut an apple into 2 equal parts, what would you call each piece? How many half-apples make a whole one?
- 3. Lulu ate ½ of an orange and gave the rest to her little brother; how much of the orange did he have, and who had the larger piece?

- 4. If slate-pencils are a cent each, how many can I buy for 2 cents?
 - 5. How many pints will fill a quart measure?
- 6. Mrs. Ray bought a quart of milk, and paid for it in pint tickets; how many tickets did she give?
- 7. If you pay a cent for an apple, and a cent for some candy, how much will you have left out of a 2-cent piece?
- 8. Susie's mother gives her a cent a day for pulling weeds out of the garden; how many days will she have to work to get 2 cents?
- 9. The baby has a flower in each hand; how many flowers has she?
 - 10. How many thumbs have you?
- 11. How many shoes is a pair of shoes? How many pins is a couple of pins?
- 12. How many times must I take a pint measure to the pump to get a quart of water?
- 13. Fred had a pair of bantams, but 1 died; how many had he left?
- 14. What will a pint of buttermilk cost, at 2 cents a quart?
- 15. How many postal cards can you buy for 2 cents?

- 16. 1 pint is what part of a quart?
- 17. If I divide an apple equally between 2 little girls, what part of the apple will each have?
 - 18. Henry walked ½ mile yesterday, and the same to-day; how far has he walked in the 2 days?
 - 19. If I had a piece of board 2 feet long, and I cut off a foot of it, how much would the piece that was left measure?
 - 20. If you should drink the half of a quart of milk, how much milk would be left?
 - 21. Little May has a cent in each hand; how much money has she?
 - 22. Katie and her cousin are going to play tea together; how many plates will they need on the table?
 - 23. If pop-corn balls are a cent each, how many can you buy for a 2-cent piece?
 - 24. Uncle John divided a dollar between Willie and Frank; what part of the dollar did each have?
 - 25. If I drink a pint of milk a day, how long will it take me to drink a quart?
 - 26. If eggs are a cent each, and my black hen laid an egg Monday and one Tuesday, how much would I get for them if I sold them?

- 27. Tom ate ½ of his orange; what part of it had he left?
- 28. Kittie's aunt gave her a pair of pretty red mittens, but she lost one playing in the snow; how many had she left?
- 29. Johnnie has a 2-cent piece, and Fred has 2 pennies; who has the most?
- 30. Bessie's mother gave her 2 cents; she put one in the bank and spent the rest for candy; how much candy did she buy?
- 31. Charlie had a couple of plums for his lunch, but he ate only one, and gave the rest to his teacher; how many plums did he give her?
- 32. Katie has a cent to spend every Saturday; how much does she spend in 2 weeks?
- 33. Willie had a pair of pretty white rabbits, but one ran away and never came back; how many had he left?
- 34. Eddie had to walk a mile to his grandmother's to take her some eggs, but when he had gone half the way, his uncle came along in his buggy and drove him the rest of the way; how far did Eddie walk?
- 35. Sarah had 2 canaries, but one morning when she went to feed them, one of them flew away; how many had she left?

Three. 3. III.

- 1. If apples are a cent each, how much will 3 apples cost?
- 2. Percy had 3 marbles, but lost 1; how many has he left?
- 3. Lucy had 3 sticks of candy; she ate a half-stick, and gave 1 stick to her sister. How much candy has she left?
- 4. I had a quart and a half of milk, and drank 1 pint a day; how many days did it last me?
- 5. How many feet make a yard? How many times must I use a foot measure, to measure a yard?
- 6. If I cut an orange into 3 pieces, what shall I call each piece? How many thirds make a whole orange?
- 7. I had 2 nice red apples exactly the same size. I divided one equally between 2 little girls, and the other equally among 3 little boys; who had the larger pieces, the girls or the boys, and what part of the apple did the boys have? The girls?
 - 8. 1 foot is what part of a yard?
- 9. If ribbon is 3 cents a yard, how much can I buy for 2 cents?

- 10. Kittie's mamma gave some pears to her and her cousin, giving each 1 pear and a half; how many did she give them?
- 11. How many 2-cent oranges can you buy for 3 cents, and how much money will you have left?
- 12. A milkman left a pint of milk at 3 houses; how many quarts did he leave?
- 13. George found 2 eggs one day and 1 the next, and sold them for a cent each; how much did he get for them?
- 14. Ada lost 1 of her chickens, which was \(\frac{1}{2} \) of all she had; how many had she?
- 15. Mr. Jones bought each of his 2 boys a pair of shoes at \$1½ a pair; what did he have to pay for both pairs?
- 16. Mabel had 3 cents; she spent if of it for an apple, and put the rest in her bank. How much did she put in the bank?
- 17. Grace had a cent, and Martha had twice as many; how many did they have together?
- 18. How many pints will it take to fill a quart pail?
- 19. Anna gave a rose to her mother, one to her father, and left one on the bush; how many were on the bush before she picked them?

- 20. Elmer's duck lays an egg every day; how many will she lay in 3 days?
- 21. Freddie had a board 1 yard long, but he sawed off a foot of it to make it fit in a window-frame; how long is it now?
- 22. If you had 3 cents and spent one for marbles, how many would you have left?
- 23. Robbie is away from home, and his mother sent him a cake for his birthday. He ate ½ of it a day until it was gone; how many days did the cake last him?
- 24. Mrs. White had a quart and a half of milk, and used a pint for a pudding; how much had she left?
- 25. How much will I have to pay for a postal card and a 2-cent stamp?
- 26. If you had a 2-cent piece and a cent, and oranges are 3 cents each, how many could you buy?
- 27. Millie ate ½ of her banana; what part of it had she left?
- 28. Mr. Hall had 3 pints of milk in his can, but on his way home he sold a quart; how much milk has he left?
- 29. Willie and his sister went into the woods for chestnuts. Willie picked up 1 quart, and

Nellie filled a pint pail; how many did they have together?

- 30. What will 3 eggs cost at a cent each?
- 31. Tom has a cent in his hand and 2 in his pocket; how many has he?
- 32. Don had 3 plums and ate 2 of them; how many had he left?
- 33. Annie has a pint of milk in a quart pail; how much more will she have to pour in to fill it?
- 34. If you had a cent and spent it for candy, and when you came home your father gave you 2 cents, how much would you have then?
- 35. If I divide 3 marbles among 3 boys, how many can I give to each?
- 36. Emily's father gave her one of his speckled hens for her own; if it lays an egg a day, in how many days will she get three?
- 37. Flora bought 3 sticks of candy, and ate them all but a half-stick; how many sticks did she eat?
 - 38. What is 1 of \$3?
- 39. If lace is 3 cents a yard, what will \(\frac{1}{2}\) of a yard cost?
- 40. How much will George have left out of a 3-cent piece, if he buys an orange for 2 cents?

- 41. Tom's uncle gave him a large pear, which he shared equally with 2 of his schoolmates; what part of the pear did each have?
- 42. Which holds the more, a 3-pint pail, or one that holds a quart and a half?
- 43. I bought an orange for 2 cents and an apple for 1 cent; how much did I spend?

Four. 4. IV.

- 1. Clara's brother had 4 plums, and gave her to f them; she ate 1, and gave what she had left to her little sister. How many did she give her?
- 2. How many times must I use a quart measure, to fill a gallon jug with water? When it is half full, how many quarts have I poured in?
- 3. If I cut a cake into 4 equal pieces, what should I call each piece?
- 4. How many fourths in a whole apple? Give another name for a fourth.
- 5. Charlie's big brother can walk a mile in a quarter of an hour; how many miles can he walk in an hour?
- 6. Mr. Martin bought a gallon of vinegar, and used 1 quart of it; what part of the gallon did he use?

- 7. If buttermilk is 4 cents a quart, how much could I buy for 2 cents?
- 8. How many more wheels has a wagon than a cart?
- 9. Lucy, Kate, Charlie, and Eddie went blackberrying one afternoon. Lucy picked a quart and a half, Charlie 1 quart, and Kate and Eddie each a pint. After they were through picking, they poured them all into Lucy's pail, which held them all but Eddie's pint; how many berries did they pick, and how much did Lucy's pail hold?
 - 10. How many gills in a pint of molasses?
- 11. If milk is 4 cents a pint, how much can I buy for a cent?
 - 12. 2 quarts is what part of a gallon of vinegar?
- 13. If apples are a cent each, how many can I buy for 2 two-cent pieces?
- 14. A milkman spilled a pint of milk out of a half-gallon can; how much was left?
- 15. At 2 cents each, what must I pay for 2 oranges?
- 16. Sadie had a yard of pretty blue ribbon, but she kept only $\frac{1}{2}$ of it, and gave what was left to her little cousin May, to put on her dolly's bonnet; how much did she give away?

- 17. Johnnie had to pay 4 cents for breaking a pane of glass. His father gives him a cent a day for spending-money; if he takes his own money, in how many days will he pay for the glass?
- 18. Lillie went to the store and bought 4 pounds of butter, but ½ of it was for her aunt and the rest for her mother; how many pounds of butter did each have?
- 19. When flour is 4 cents a pound, what will if of a pound cost?
- 20. Lottie's father gave her a young peachtree, and last fall it had 4 peaches on it; she gave ½ of them to her mother, and ate the rest herself. How many did she eat?
- 21. At 4 cents a pint, what will a gill of milk cost?
- 22. If I save a cent a day, how many days will it take me to save 4 cents?
- 23. Harry's grandmother gave him 2 pairs of chickens; if each one laid an egg every day, how many eggs would he get in one day?
- 24. Our cow gives us 2 half-gallon pails of milk every night; how many quarts is that?
- 25. If you have a dollar, and buy a book for fifty cents, how much will you have left?
 - 26. How many quarters make a whole dollar?

- 27. Emma's uncle gave her a half-dollar, and she gave ½ of it to a poor woman to buy some coal; what part of a dollar had she left for herself?
- 28. How many weeks will it take Nettie to get a dollar, if her mother gives her 25 cents a week?
- 29. Henry had 2 pairs of ducks, but one duck died; how many ducks has he left?
- 30. Milk is 4 cents a half-quart; how much for a gill?
- 31. How much must I add to a string a yard long to make it 4 feet?

Five. 5. V.

- 1. How many days would you come to school in a week, if you stayed at home Wednesday?
- 2. Minnie had 5 little chickens, but a cat caught one of them, and ½ of what were left died; how many has she now?
- 3. I divided an apple equally among 5 little girls; what part of the apple did I give to each?
- 4. Archie's mother gave him ½ of an orange, but he ate only ½ of what she gave him, and saved the rest for his little brother; what part of the whole orange did he eat?

- 5. Walter had \$5 in his bank, but he took for it out for a pair of shoes; how much did he pay for the shoes, and how much money had he left in his bank?
- 6. Josie had 2 cents, and his father gave him 3 more, and said he might spend it all as he pleased. He bought a slate-pencil for his sister with 1 cent, and spent ½ of the rest for a top; how much was the top?
- 7. How many cents in a half-dime? One cent is what part of a half-dime?
- 8. My brother gave me 1-cent pieces for a half-dime; how many cents did he give me?
- 9. Ned's uncle gave him \$5 for a Christmas present, and he used ½ of it for a pair of skates; how much were the skates?
- 10. If you and Fred had each 2 cents and I had 1 cent, how much would we have if we put them all together?
- 11. John walked a mile Monday, and 3 times as far Tuesday; how many miles did he walk in both days?
- 12. Percy went to the store and bought a pint of milk at 4 cents a quart, and 2 lemons at a cent each; how much money did he spend?

- 13. How much will I have left out of a halfdime, if I buy $\frac{2}{3}$ of a yard of ribbon at 3 cents a yard?
- 14. If I give 5 boys each † of an orange, how many oranges do I give away?
- 15. How many half-dimes make a whole dime?
- 16. Nat found a couple of peaches under a peach-tree in the garden. He took them into the house and gave them to his little twin sisters; how many did he give to each?
- 17. How many 2-cent stamps can you buy for 5 cents, and how many slate-pencils, at a cent each, can you buy with what is left?
- 18. If eggs are a cent each, how many can you buy for a half-dime?
- 19. How many peaches, at 3 cents each, can I buy for 5 cents?
- 20. Henry lives a half-mile from the school-house; how many miles does he walk in a week, in going to and from school, if he brings his dinner each day?
- 21. 5 boys were sliding down hill on a sled; when half-way down all but one fell off into the snow; how many were in the snow?

- 22. If Susie ate † of her orange, what part of it would she have left?
- 23. How much will Frank have left out of a 5-cent piece, if he buys 2 apples at 2 cents each?
- 24. How many feet would I have to nail to a yard-stick to make it 5 feet long?
- 25. What will a quart and a pint of buttermilk cost at 2 cents a quart?
- 26. Nellie has 4 white roses and 1 red one; how many roses has she?
- 27. If mamma had 3 pies to make, and makes 2, how many more has she to make?
- 28. My little sister is 4 years old; how old will she be in another year?
- 29. Tom had 3 oranges, and gave 1 to each of his 2 little sisters; how many had he then?
- 30. If you have 5 cherries and eat 5, how many will you have left?
- 31. Will is going to buy a rubber ball, and the one he wants is 5 cents; but as he had only 3 cents, his mother gave him the rest; how much did she give him?
- 32. I have a pail that holds 3 pints; if I pour a quart of milk into it, how much more will it take to fill it?

- 33. If you have 5 cents, how many times can you spend a cent?
- 34. Hattie has a pair of mittens for school and a pair for church; how many mittens has she?
- 35. There are 3 cows in the field, and Tim drives in two more; how many in the field now?
- 36. I have a couple of apples in my basket and 1 in my pocket; how many apples have I?
- 37. If a wheel comes off of a carriage, how many wheels will be left?
- 38. I had 5 cents, and bought a 4-cent postage stamp and a postal card; how much have I left?
- 39. Archie found 4 eggs in the hay-mow, but in carrying them to the house he fell and broke ½ of them; how many whole ones had he left?
- 40. If you have four mittens, how many pairs have you?
- 41. Ned gets a cent for every egg he brings his mother from the barn; how many eggs will he have to find to get 5 cents?
- 42. If I cut a cake into fifths, how many pieces will I have?
- 43. There were 4 peaches on a tree, and 3 fell off; how many are on the tree?

- 44. I see 5 girls, each with a doll; how many dolls do I see?
- 45. John has 5 cents and Nannie has 3; which has the most?
- 46. Martin took a pint pail 5 times to the pump, to fill his mother's big pail with water; how many quarts did the big pail hold?
- 47. If Fanny cuts her apple into 5 pieces, and gives away 4 of the pieces, what part of the apple will she have left?
- 48. 5 boys are playing horse; if one is driving, how many are horses?
 - 49. How many hands has a clock?
- 50. It takes the long hand 1 hour to go round the face of a clock; how many times will it go round in 5 hours?
- 51. There are 3 little white kittens in the basket, and 2 little gray ones on the floor; how many kittens in the room?
- 52. How much will a 3-cent stamp and a 2-cent stamp cost?
- 53. You are in school 5 hours a day; if 3 of them are in the morning, how many hours are you in school in the afternoon?

- 54. If 2 little girls and their 3 brothers each hang up a stocking Christmas eve, how many stockings will be hanging up?
 - 55. 1 pint is what part of a quart?
- 56. If I cut an apple in halves, to how many boys can I give each a half?
 - 57. How many gills in a pint?
- 58. If I drink a cup of milk every morning, and my cup holds a gill, how many mornings will it take me to drink a pint?
- 59. If you write ½ page in your copy-book in ½ of an hour, how many pages will you write in an hour?
- 60. If 4 apples cost 4 cents, what will 1 apple cost?
- 61. If plums are 2 for a cent, how much will 4 plums cost?
- 62. Mrs. Niles bought a gallon of oil, and used 2 quarts the first week; what part of a gallon did she use?
- 63. If you have 2 two-cent pieces, and your uncle gives you a cent, how much money will you have?

Six. 6. VI.

- 1. John bought 2 oranges at 3 cents each; how much did he pay for them?
- 2. Mary had a half-dime, and her mother gave her a cent; she then bought candy with ½ of her money, and gave 1 cent to a poor boy. How much had she left?
- 3. I divided an apple equally among 5 boys and myself; what part of the apple did I give to the boys?
- 4. How many days will it take a milkman to leave ½ gallon of milk at my house, if he leaves a pint a day?
- 5. If I give you a cent every day you come to school, how much will you have in a week, if you stay home Monday and Tuesday?
- 6. Willie gave 6 cents for ½ dozen lemons; how much was that for 1 lemon?
- 7. Cut an apple into thirds; how many pieces have you? Now cut each third in half; how many pieces have you now? What is each piece called? What is ½ of ½?
- 8. Fanny found a hen's nest with 6 eggs in it, and took all but one to the house; how manv did she take out of the nest?

- 9. 3 cents is ½ of all the money Frank has in his bank; how much is in it?
- 10. Addie had 5 roses on her bush, but one morning when she went to look at it, found that the wind had blown off one of them; she then picked ½ of what was left, and afterward 3 buds opened. How many roses had she on the bush then?
- 11. 6 boys were coasting on the hill, but 2 went into the house to get warm; how many were left on the hill?
- 12. A man paid \$6 for 2 dogs; if one of them cost \$4, what did he pay for the other?
- 13. Flour is 6 cents a pound; how much can I buy for 2 cents?
- 14. If buttermilk is 4 cents a quart, what will a quart and a pint cost?
- 15. Harry had 6 little white rabbits, but one of them ran away, and he gave 2 to a little boy; how many had he left?
- 16. If you walked 1 mile Monday, 2 miles Tuesday, and 3 miles Wednesday, how far did you walk in the 3 days?
- 17. What would a pint of milk cost at 6 cents a quart?
 - 18. How many yards in 6 feet?

- 19. If 5 little boys came to see you, and your mother should give you an orange to divide equally among you all, what part of the orange would each have?
- 20. Ella had 6 kittens, but 1 died, and she gave 1 away; how many had she left?
- 21. If your mother gives you an apple with your lunch every day you go to school, how many will she give you in 1 school week?
 - 22. How much is a half-dime and a cent?
- 23. Emily had 6 buds on her rosebush, but only half of them opened; how many roses had she?
- 24. Mrs. Martin had 6 young canaries, but she only raised two of them; how many died?
- 25. If you eat two peaches out of a half-dozen, how many will be left?
- 26. Susie paid 6 cents for 6 black-headed pins; how much was that for each pin?
- 27. If you cut an apple into sixths, how many pieces will you have?
- 28. I want to put 3 quarts of milk in pint bottles; how many bottles will it take?
- 29. Mrs. Clinton made a nice apple-pie for dinner, and $\frac{5}{6}$ of it was eaten; she gave Bessie

what was left for her lunch next day. What part of the whole pie did she give her?

- 30. What will three 2-cent stamps cost?
- 31. Mr. Peck divided 6 cents equally among his 3 little boys; how much did each have?
- 32. John saved all his pennies last week, and when he counted them found he had 6; he saved 2 for Sunday-school, put 2 in his bank, and spent the rest for a top. What did the top cost?
- 33. If I get 3 eggs a day from my hens, how many days will it take me to get a half-dozen?
- 34. If I sell them for a cent each, how much will I get for them?
- 35. Flour is 6 cents a pound; what will a half-pound cost?
- 36. If apples are 2 for a cent, how much must I pay for 6?
- 37. How much more is a half-gallon than 3 pints?
- 38. Mrs. Fowler cut off a foot from 2 yards of tape; how much was left?
 - 39. How many sixths in ½ of an apple?
- 40. If I eat \(\frac{1}{2}\) of an orange, what part will be left?

41. Lilly had a half-dozen cherries, and gave her sister ½ of them; how many had she for herself?

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Seven. · 7. VII.

- 1. If I cut a cake into 7 pieces, what shall I call each piece? If I give away 3 of the pieces, what part will be left?
- 2. Robbie has a 2-cent piece, a 3-cent piece, and a cent; how much more will he have to get to have 7 cents?
- 3. My milkman left me 1½ quarts of milk one day and 2 quarts the next; if I paid him in pint tickets, how many would it take?
- 4. I want to put a gallon and a half of vinegar into quart bottles. I had 1 bottle and bought 2 dozen more; will I n d all I bought?
- 5. If 1 man can build a wan in 7 days, how long will it take 2 men to build the same kind of a wall?
- 6. Katie has no father, and her mother has to go out sewing, and earns a dollar and a half a day; last week she was sick 2 days and could not work. How much did she earn that week?
- 7. How many times would you use a foot rule to measure 2 yards?

tin's top-string is a foot long, and has one a yard long; how much s brother's than his own?

ces and a third of 3 are how many?

Carll has a milk-can that holds 7
he pours a gallon of milk into it,
uarts will it then take to fill it?

many days in a week? If we work many days will we have to rest?

miles from Whitestone to Flushlk there and back, how far do 1

- 13. If I had 2 apples, to how many boys could I give a third each?
- 14. Walter had 7 peaches; he gave his father, mother, and sister each 2, and ate 1 himself. How many had he left?
- 15. How far will a boy walk in a week, if he walks a mile a day?
- 16. There are 3 row-boats on the lake. One has 2 boys in it; another, a boy and a little girl; and the third, a lady and gentleman. How many people are in the boats?
- 17. Eddie's father lets him hunt the eggs for him. Yesterday, in one nest he found 3, in

- another 1, 2 in another, and 1 in the last; but he stumbled and fell going to the house, and broke 2 of the eggs. How many did he take home?
- 18. Willie has a cent every day, and this week he is going to save his money to buy a writing-book; but he found he could get the kind he wanted for 5 cents, so he told his mother he would keep the rest until Sunday, and put it on the plate when he went to church. How much will he have for the plate?
- 19. If candy is a cent a stick, how many sticks can I buy for 7 cents?
- 20. At 3 cents a pint, what will a quart of milk cost?
- 21. Maggie has 6 little ducks; if one is black and the rest yellow, how many yellow ones has she?
- 22. I saw a horse run away with a wagon, and one wheel was broken; how many whole wheels are left on the wagon?
- 23. Scott has a coat with 3 pockets. In one he has 2 cents, in another twice as many, and 1 cent in the third; how much money has he in his pockets?

- 24. Lemons are a cent each, and Mrs. Lee sent her little boy to buy her a half-dozen, and gave him 1 cent to spend for himself; how much money did she give him?
- 25. Lillie's aunt bought her a pretty basket with 7 peaches in it. Her mother said she might eat a half-one, and give a half to her brother, and put the rest away; how many did she keep?
- 26. A hen is sitting on 7 eggs; if she hatches every egg but one, how many little chicks will she have?
- 27. One day the cat caught 1, and 1 was drowned in the pond; how many had the old hen then?
- 28. Ray bought 3 apples at 2 cents each, and a pencil for a cent; how much did he spend?
- 29. Allie had a great many blossoms on his apple-tree, but in the fall found there were only 7 apples on the tree. He had promised his brother that he should have half; how many will he give him?
- 30. Our brown cow gives a gallon of milk every morning, and the black one 1 quart less; how many quarts do they both give?

Eight. 8. VIII.

- 1. Lucy has 6 cents, and Clara has 8. They are each going to give ½ of their money to a poor little girl; how much will they both give?
- 2. What will it cost to send 4 two-cent letters from Boston to New York?
- 3. Ethel had a yard of blue ribbon to tie on her kitten's neck, but it was too long, so she cut it in 3 pieces; how much was in each piece?
- 4. Charley and Jack's father gives them a dollar every birthday. Charley has \$4, and Jack has twice as many; how old is Jack?
 - 5. How many eighths in a whole apple?
- 6. Mrs. Carter cut a pie and gave Gracie and Lou 4 of it; who had the larger piece?
- 7. Two men are building a stone wall, for Mr. Cook, that is to be 7 feet high, and it is now 2 yards high; how much more have they to add to finish it?
- 8. Mattie had 4 two-cent pieces, but she gave one of them away and spent a cent for a pencil; how much had she left?
- 9. Two stages passed through the village this morning, each drawn by 4 horses; how many horses were there?

- 10. I sent Mills to the post-office with money to buy me 2 two-cent stamps and a postal card, and gave him 2 cents for himself; how much money did I give him?
- 11. Maggie has a cent every day and 2 cents Sunday; how much has she in a week?
 - 12. What will 8 figs cost, at 2 for a cent?
- 13. We have a hen that stole her nest and brought off 5 little yellow chicks; but when we found the nest, there were 3 eggs in it that did not hatch; how many eggs had she at first?
- 14. Baby May had a party in the hammock, and she invited the cat and her 3 kittens, her doll, and little Rosie who lives next door; how many did she ask?
- 15. Four fish is ½ of all Walter caught yesterday; how many did he catch?
- 16. Ross had 8 sticks of lemon candy, but he gave 4 to Tom, and ate ½ stick; how many sticks had he left?
- 17. What will 1 lead-pencil cost, if I can buy 4 for 8 cents?
- 18. If milk is 8 cents a quart, how much can I get for a cent?
- 19. Harry went to the store and bought 2 cents' worth of candy, and gave the store-keeper

- a 5-cent piece; how much change did he give him?
- 20. How many gills in a pint of milk? Two gills is what part of a pint?
- 21. How long will 8 pounds of butter last a family, if 2 pounds are used a day?
- 22. Carl stood and watched the blacksmith while he put shoes on 2 horses; how many shoes did he use?
- 23. Rosie picked 4 quarts of blackberries for her mother, who used 3 pints for a pie, canned 2 quarts, and saved the rest for supper; how many berries had they for supper?
- 24. Eight half-dollars will make how many whole ones?
- 25. Oatmeal is 2 cents a quarter of a pound; how much must I pay for a pound?

Nine. 9. IX.

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- 1. Nat had 9 marbles. He lost 4 of them, won 2, and bought 2; how many had he then?
- 2. Mary had 6 cents, and her father gave her as many more; if she gave 2 to her little sister, how many days would the rest of them last her, if she spent a cent a day?

- 3. How many postal cards can you buy for 9 cents?
- 4. Bertie had 9 plums; if he ate $\frac{1}{2}$ of them, and gave 2 plums away, how many would he have left?
- 5. Nellie went to the post-office and bought 3 three-cent stamps; how much did she pay for them?
- 6. Fred worked 3 days and earned 3 cents a day. He gave his little sister a cent, and spent 2 of what was left for some writing-paper; he afterwards found 2 cents; how much had he then?
- 7. Laura had some little girls to play with her, and her mother gave her 2 nice large or anges to divide among them; she cut them into quarters, so she and her little friends could each have a piece. How many little girls came to play with her?
- 8. At 9 cents a yard, how much ribbon can you buy for 3 cents?
- 9. Lucy is 4½ years old, and her cousin Harry is twice as old; how old is he?
- 10. If I divide 3 apples among 9 boys, what part of an apple will each receive?

- 11. If I cut a yard of ribbon into ninths, how many pieces will I have?
- 12. Frost had 9 cents and spent a cent; what part of his money did he spend, and what part of it had he left?
 - 13. How many ninths make a whole one?
- 14. Lutie is picking cherries for his mother, and his pail holds just a pint. His mother wants 3 quarts; how many times must he fill his pail?
- 15. Tom had 9 rabbits, but he gave them to his cousins who lived in the country, giving 3 to each; to how many cousins did he give them?
- 16. Flora has 3 lines to write in her copybook, and George has twice as many and 2 more; how many has he to write?
- 17. How many sides has a square? How many has a triangle? How many more sides has a square than a triangle?
- 18. Max had 9 bananas. He gave his mother if of them and ate if of one; how many had he left?
- 19. After cutting an apple into thirds, I cut each third into 3 pieces; now what should I call each piece?

- 20. Which will cost the most, 3 oranges at 3 cents each, or 9 at 1 cent each?
- 21. If my little sister Bessie was 1 foot taller, she would be just a yard high; how many feet high is she?
- 22. Willie's grandmother lives 9 miles from his home, and he thought it would be fine fun to surprise her by walking there; so one fine morning he started, but after walking † of the way found it was too much for him, and went home again; how far did he walk?
- 23. Three, three, and a third of 3 are how many?
- 24. Mr. Watt had a gallon of cider, and put it in pint bottles; how many bottles did he use?
- 25. If 3 men can build a wall in 3 days, how long will it take 1 man to build it?
- 26. Mr. Ryan works for \$2 a day. It took him a day and a half to lay some sod in our front yard; how much must we pay him?
- 27. The fare in the street cars is 5 cents for grown people and 3 cents for children; how much did little Katie and her mother have to pay to ride down town?

28. Mr. Harris has a young peach-tree in his garden that yesterday had 9 peaches on it; but the wind blew so hard in the night that there are only 5 on it now; how many blew off?

Ten. 10. X.

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- 1. How many cents make a dime? A half-dime?
- 2. How many half-dimes make a whole one? How many halves make a whole apple?
- 3. Ethel has 5 cents to spend for peanuts; if a quart cost a dime, how many can she buy?
- 4. A shoemaker made 10 boots and sold them for \$2 a pair; how much did he get for them?
- 5. James had 10 red apples; he gave his sister ½ of them, ate 3, and saved the rest for his lunch; how many did he save?
 - 6. At 3 cents each, what will 3 tops cost?
- 7. Katie had 10 cents, and gave ‡ of it for a slate, and a cent for a pencil; had she any money left, and how much?
- 8. How many 2-cent stamps can I buy for 10 cents?

- 9. Mrs. Rose burns a pint of oil a night; how many quarts does she burn in a week?
- 10. 10 boys were on the ice. One more than ½ of them were skating, and the rest were sliding; how many were sliding?
- 11. Willie's uncle gave his brother Tom a pony when he was 10 years old, and told Willie he would give him one too, on his tenth birthday. If he is 6 years old now, how long will he have to wait for his pony?
- 12. Lucy had 10 cents; she spent 4 of them. lost 2, and gave 3 away; how many had she left?
 - 13. How many wheels have 5 bicycles?
- 14. Harry walked 2 miles to-day, and 3 times as far yesterday; how many miles has he walked in the 2 days?
- 15. Don paid 10 cents for a ball and 4 cents for a top; how much more did he pay for the ball than for the top?
- 16. If 5 peaches cost 10 cents, what will one cost?
- 17. If I send you to the post-office with a dime, to buy 3 postal cards, how much change will you bring me?

- 18. I had a black hen with 5 little chickens, and a white one with 4; but the old black hen died, and I had to put all the little ones together, with the white hen for a mother. How many chickens had she to care for?
- 19. What will a half-dozen lemons cost, at 2 for a cent?
- 20. How many 1-cent stamps can you buy for 2 half-dimes?
- 21. Little Katie was 3 years old when her brother went away from home; when he came back, she was 10. How long had he been away?
- 22. If sugar is 10 cents a pound, what part of a pound can I get for 2 cents?
- 23. Nellie Nichols lives in Albany, and has 2 sisters and 2 brothers away from home. One day she wrote them each a letter; how much will she have to pay for stamps for them?
- 24. An old hen has hatched a brood of little ducks. 6 are in the pond and 4 are eating grass on the bank; how many ducks has she?
- 25. Fred found a half-dozen eggs in the haymow, but broke ½ of them coming down the ladder; how many had he left?
- 26. Selden's mother gives him 2 cents for his lunch every day he goes to school; how much does his lunch cost him in a week?

GRADED PROBLEMS.

SECOND YEAR.

Eleven. 11. XI.

- 1. Some boys are having a snow-ball fight There are 5 boys on one side, and 6 on the other; how many boys are there all together?
- 2. Carrie's aunt gave her all the change she had in her pocketbook,—a half-dime, a 2-cent piece, and 4 pennies; how much money did she give her?
- 3. If I cut a string in 11 pieces, what shall I call each piece?
 - 4. How many elevenths make a whole one?
- 5. Jack found 6 eggs in one nest, and 5 in another. His mother used 3 of them for a cake, and he sold the rest for a cent each; how much did he get for them?
- 6. George started out with 11 cents in his pocket, to buy something nice for his little sister, who was sick. He bought 2 nice sweet oranges,

that were 5 cents each, and spent the rest for a picture book; how much did he pay for the book?

- 7. Josie has a 10-cent piece and a penny in his pocket; how many pears can he buy, at 3 cents each, and will he have any money left, and how much?
- 8. May bought 6 strings of white beads and 5 strings of blue ones, and paid 11 cents for them; how much did she pay for a string?
- 9. Harry's mother said he might have a cent for every egg he brought her from the barn. Monday he found 3, Tuesday only 1, Wednesday 5, and the next day 2; how much money had he Thursday night?
- 10. Bessie had a plate of cherries given her, and she tied them in bunches, putting 5 in a bunch. When she had finished, she found she had a bunch for her mother, 1 for herself, and had 1 cherry left; how many cherries were on the plate?
- 11. Mattie's aunt made her 4 nice cakes to take to her Sunday-school picnic. Mattie went to the store and bought the butter and eggs for them,—2 eggs and ½ pound of butter for each cake; how many eggs and how much butter did she buy?

- 12. Lucy had 11 words to learn for a spellinglesson, but when she wrote them, her teacher marked 3 that were spelled wrong; how many were correct?
- 13. Nat was up in a tree, throwing apples down to Ned, who caught them in his hat. He first threw 3, then 4, then 4 more, and Ned caught them all but 2; how many did he catch?
- 14. Fred had a pail that held a gallon. He filled it once and a half with water for his horse; how many quarts of water did the horse drink?
- 15. Frank threw his ball against the wall 11 times to catch it on the bound. He missed it twice; how many times did he catch it?
- 16. Tom made 2 little carts,—one for his sister and one for himself. How many wheels did he put on both carts?
- 17. Grace found 2 marbles, and her brother said he would swing her 5 times for each marble; how many times would he have to swing her for the marbles?
- 18. Our cow gave us 1½ gallons of milk this morning and 5 quarts this evening. Betty poured it all into quart pans; how many pans did she fill?

- 19. Tom took his pole down to the brook to fish; he caught 7 in the morning, but only 4 in the afternoon. How many fish did he catch during the day?
- 20. Eddie went out in his boat one morning to row on the lake, but he had not been out long when he lost his oars, and it was noon before some men who were fishing saw him and brought him in. If he started out at 7 o'clock, how many hours was he on the lake?

Twelve. 12. XII.

- 1. Which will cost the most, a dozen lemons at a cent each, or a half-dozen oranges at 2 cents each?
- 2. What must I pay for $\frac{3}{4}$ of a pound of cheese, at 12 cents a pound?
- 3. Eggs are a cent each. George went to the store and bought a dozen for his mother; but coming home, he met a little boy he knew, and went home with him to see his rabbits. He set his basket on the ground, and Rover came along and knocked it over, and broke ½ of the eggs. His mother said, because he was so careless, he must take enough money from his bank

to pay for those that were broken; how much must he give her?

- 4. Three boys went nutting, and agreed to put all the nuts they gathered, together, and then divide them equally. One boy picked a quart and a pint, another 2 quarts, and the third 1 quart; how many nuts had each after they were divided?
- 5. If crackers are 6 cents a half-pound, what will a pound cost?
- 6. Susie has a little red velvet pocketbook, with a silver half-dime, and 7 bright new pennies in it; how much money has she?
- 7. John sharpened a dozen pencils for his teacher; one was a lead-pencil, and the others were slate-pencils. She kept the lead-pencil, and told him to give the others. 1 to each girl in the class; how many girls were there?
- 8. Willie is saving all the money he can for Christmas. His mother gave him 2 cents Monday, and his aunt gave him 3 cents. Tuesday his father gave him a half-dime, but he had to use 2 cents of it to buy a sponge, and Wednesday he found a cent; how much money has he?
- 9. What, will ½ pound of candy cost, at 12 cents a pound?

- 10. If you eat $\frac{7}{2}$ of your orange, what part of it will you have left?
- 11. Mr. Wright bought a box with a dozen oranges in it, but when he looked them over, found that ½ of them were spoiled; how many were good?
- 12. What will 4 yards of wall-paper cost, at a cent a foot?
- 13. Kate cut a piece of blue ribbon that was a foot long, into 2 pieces; how many inches were in each piece?
- 14. Ray has a hen that lays an egg every day. When he gets a dozen, Mr. Mold, the grocer, will buy them at a cent each. He has if of a dozen now; how many days more before he has the whole dozen eggs?
- 15. What will ½ gallon of milk cost, at 3 cents a pint?
- 16. If lemons are 12 cents a dozen, how many can you buy for 7 cents?
- 17. When Lottie was 8 years old, her mother gave her a party, and cut her birthday cake so that each child had $\frac{1}{12}$ of it. How many children were at the party?
- 18. At 4 cents a yard, what will 3 yards of lace cost?

- 19. If I cut a pie into 6 pieces, then cut each piece in two, and give you one of the pieces, what part of the pie would you have? What part of the pie would the piece be before it was cut in half? What is ½ of ½?
- 20. Lou's mamma divided 12 ripe red cherries equally among herself and little twin brothers; how many cherries did each have?
- 21. Charley goes to Sunday-school and learns a verse every Sunday; how many verses will he learn in 4 weeks?
- 22. Last summer they had a picnic, and had 3 big wagons to hold the children, each drawn by 4 horses; how many horses did they have?
- 23. How much must I pay for \(^2\) of a pound of sugar, at 12 cents a pound?
- 24. Minnie's father gives her a dollar a month for spending-money; how much does he give her in a year?
- 25. Cora is taking eggs to the store to sell, and has 2 little baskets with a half-dozen in each; how much will she get for them, if the storekeeper gives her a cent for 2 eggs?

Thirteen, 13, XIII.

- 1. If your mother gives you a dime and a 3-cent piece, to buy 4 three-cent oranges, how much change will you bring her?
- 2. John had 4 cherries, and his sister had twice as many and 5 more; if she ate 6 of them, how many would she have left?
- 3. Kitty went to her aunt's and stayed 1 whole week and 6 days of the next; how many days was she away?
- 4. Annie has 6 cents and her brother has 7: how many have both?
- 5. Lucy was watching her mother can blackberries, and when she measured them, found there were exactly 6½ quarts; so she told Lucy to run to the closet and bring her enough pint jars to hold them. How many jars should Lucy bring?
- 6. Arthur sharpened some lead-pencils for his teacher, and on counting them found he had 1 more than a dozen; how many did he sharpen?
- 7. Fred is 13 years old, and his little sister is 2 as old; how old is she?
- 8. I had 13 cents, and bought ½ dozen slatepencils; if they are a cent each, how much money will I have left?

- 9. Willie had 13 figs; if he gave each of his 3 sisters 3, and kept the rest himself, how many would he have?
- 10. If I cut an apple in 13 pieces, what should I call each piece?
- 11. Robert worked 2 days pulling weeds, and earned 5 cents a day, and his uncle gave him 3 cents for holding his horse. If he spends a cent a day, how long will his money last?
- 12. Tom made a snow-man, and put 9 pieces of coal down the front of his coat for buttons, and 2 pieces on each sleeve; how many pieces of coal did he use for buttons?
- 13. May has been hunting eggs in the barn for her aunt. In one nest she found 3, in another twice as many, and in another 4; how many eggs did she find in the three nests?
- 14. If pop-corn is 5 cents a pint, how many quarts can you buy for 13 cents, and how much money will you have left?
- 15. Ned has had to stay after school ½ hour for 13 days; how many whole hours has he stayed?
- 16. Harry made a tail 3 yards long for his kite, but when he went to fly it, found that it

was not quite long enough, so he added another foot to it; how long was it then?

- 17. Ross had a string of 13 bells for his sled, but one day going down hill he ran against a fence and tore off 4 of them; how many were left on the string?
- 18. Jennie saw 13 ducks on the pond. 7 of them were white, ½ of the rest were gray, and the others were black; how many black ducks did she see?
- 19. Fred sold eight tickets yesterday for a fair, and has 5 more still to sell; how many tickets had he?
- 20. After churning, Rosie had 1½ gallons of buttermilk. She sold it all for 2 cents a quart; how much did she get for it?

Fourteen. 14. XIV.

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- 1. Paul has 14 cents, and Loy has ½ as many and two more; how many has Loy?
- 2. Lottie went to the store with 2 half-dimes, a 3-cent piece, and a cent; she bought 3 oranges at 2 cents each, 2 lemons at 1 cent each, and ½ pound of sugar at 10 cents a pound. How much money had she left?

- 3. How many days in 2 weeks?
- 4. May's mamma had Mrs. Brown sew for her for 2 weeks, and gave her 7 dollars a week; how much did she give her for the 2 weeks' sewing?
- 5. Cheese is 14 cents a pound, and eggs are 12 cents a dozen. Kate went to the store with 14 cents, and bought ½ pound of cheese, and spent the rest of her money for eggs; how many eggs did she buy?
- 6. How much will 7 pears cost, at 2 cents
- 7. Tom spent 3 cents for a kite, which was $\frac{1}{2}$ of his money, and bought a ball of cord with what was left; how much did he pay for the cord?
- 8. Will Smith has to ride in a car and cross the ferry to go to school; it is 5 cents in the car, and 2 cents to cross the ferry. How much does it cost him a day to go to school, if he carries his dinner?
- 9. Frank found 9 ripe plums under one tree, and 5 under another; how many did he find?
- 10. He gave 4 of them to his brother and 3 to his sister; what part of all his plums did he give away?

- 11. Katie and May have gone out to spend the pennies they have saved through the week. The kind of candy they want is 12 cents a pound. Katie has enough money to buy ½ pound, and May ½ pound; how much money did both little girls save?
- 12. Josie's father gives him 7 cents a week for pocket-money. Last week he had no change, so he gave him a dime, and told him to keep the extra money for the next week, and he would give him the rest Saturday night; how much did he owe him?
- 13. Morris had a big orange and ate all but † of it; what part of the orange did he eat?
- 14. Celie has 7 cents in her bank, and her sister Maggie has twice as many; how much has Maggie in her bank?
- 15. Letty is going in the country for a 2-weeks' visit. She is to stay 3 days with her aunt, and the rest of the time with her grand-mother; how many days will she stay with her?
- 16. What will a quart and a pint of milk cost, at 8 cents a quart?
- 17. Mr. Webster has 14 cows, but he only keeps 3 at home, and his boy Tom drives the rest to pasture every morning; how many cows does he drive away?

- 18. Della's teacher gave her 14 words to write, but $\frac{1}{7}$ of them were spelled wrong; how many did she write correctly?
- 19. Tillie bought an orange for 5 cents, and some candy for 3 cents. She gave the store-keeper a 10-cent piece; how much change should he give her?
- 20. Tom's hen has 14 little chickens. ½ of them are yellow, ¾ of them are black, and the rest are white; how many white ones has he?
- 21. Harry broke a slate in school, and gave his teacher a dime to pay for it, but she gave him back 2 cents; how much did she charge for the slate?
- 22. Archie gives his pony an apple every morning and every evening; how many apples does he give him in a week?
- 23. Minnie went to the woods with some little girls to gather wild flowers, and when they came back, her mamma had cut 2 apple pies, each into 6 pieces, so that each one had a piece; how many little girls were there?
- 24. Little Ray Peck is playing with his tin soldiers, and has 1 for the captain, and 1 for a drummer; the rest he has in 2 rows, with 6 soldiers in a row. With how many soldiers is he playing?

25. Nellie has bought some candles for her Christmas-tree; 2 are blue, 3 white, 4 yellow, 3 green, and 2 red. How many did she buy?

Fifteen. 15. XV.

- 1. Dora had 3 little kittens, and she made a pretty red collar for each one, putting 5 bells on each; how many bells did she use?
- 2. Fred's aunt gives him a half-dime every day when he visits her, if he is a good boy. The last time he was there, he stayed 2 weeks and 1 day, and was naughty 3 of the days; how many half-dimes did she give him?
- 3. What must I pay for 5 oranges, at 3 cents each?
- 4. What will 1½ pounds of sugar cost, at 10 cents a pound?
- 5. Anna has to stay 5 minutes after school every time she whispers. Yesterday she was kept 15 minutes; how many times had she whispered?
- 6. Our coffee-cups hold 2 gills each; how many cups will hold a quart of coffee?
- 7. Eddie had 5 three-cent pieces. He spent is of his money for an orange, and is of what

was left for a pencil; how much money had he left?

- 8. Howard has 2 cents given him every morning he gets to school early, and is fined 5 cents every time he is late. Last week he was late Wednesday; how much money did he get that week?
- 9. If I give 8 boys each ½ of an apple, how many apples do I give away?
- 10. If I use a pint out of a gallon of vinegar, how much will I have left?
- 11. If crackers are 15 cents a pound, how much can I buy for 5 cents?
- 12. Mrs. Clinton's cistern is dry, and Eddie brought her his little pail 5 times full of water, before he went to school; if the pail holds 3 pints, how many quarts did he bring?
- 13. Out of a dozen eggs I broke 5, and sold the rest at 2 cents each; how much money did I get for them?
- 14. I had to pay 5 cents to ride down town in the street car; if I ride back, how much will I spend for car-fare?
 - 15. How many feet in 5 yards?
- 16. Henry had a dime and 5 pennies, but he spent 6 cents for some paper and a pencil. If

oranges are 3 cents each, how many could he buy with what was left?

- 17. Lemons are now 12 cents a dozen; how much will I have to pay for 15?
- 18. George had 15 peaches; he gave ‡ of them to his sister, ‡ to his mother, and divided what was left, equally, between his brother and himself; how many had each?
- 19. Mrs. Wells has 12 little girls in her Sunday-school class. Last Christmas she gave them each a half-pound box of candy; how many pounds of candy did it take to fill the boxes?
- 20. Flora has 15 roses to put in 3 vases; if she puts the same number in each vase, how many roses will she have in each?
- 21. Lou bought 2 yards of pink ribbon at 6 cents a yard, and on reaching home found she had 3 cents left; how much money had she before she bought the ribbon?
- 22. Nannie has 12 verses to recite in school; if she learns 2 verses a day, how many days will it take her to learn the whole piece?
- 23. There is a hen in the coop with 15 little ones. \ \frac{2}{3} of them are running outside, \frac{1}{3} on the inside, and the rest are under her wings; how many chicks are under the old hen?

- 24. If I can buy 5 marbles for a cent, how much will 15 marbles cost?
- 25. Mr. Parker sold ½ pound of sugar for 5 cents to Mrs. Bell, and 1½ pounds of the same kind to Mrs. Lee; how much did Mrs. Lee have to pay for her sugar?

Sixteen. 16. XVI.

- 1. Minnie had 16 cents; she spent \(\frac{1}{2}\) of her money for an orange, and \(\frac{1}{2}\) of what was left for some candy. How much did she spend for candy?
- 2. If 2 little brothers had each 8 cents, how much money would they have together?
- 3. James filled a pint pail with chestnuts every morning before he went to school. When he had gathered 16 pailfuls, he sold them to the grocer for 10 cents a quart; how many quarts did he take him?
- 4. If 8 cents will buy 2 oranges, how many oranges can you buy for 16 cents?
- 5. I have a hen that had 16 little yellow chickens, but one day when I went to feed them, I found that 2 were missing; afterward 1 was

drowned and a cat caught 2; how many had the old hen left?

- 6. Percy has a large Newfoundland dog, that eats ½ pound of meat a day; how many pounds does he eat in a week?
- 7. When Katie is 16 years old, she is going away to school; if she is 9 years old now, how many years will she have to wait before she can go?
- 8. Three boys went gunning one day last week. Two of the boys each shot 5 ducks, and the third boy shot 6; how many ducks did they all shoot?
- 9. Lucy had a hen sitting on 13 eggs, but a rat ate 4 of them; if the rest all hatched, how many little chicks had she?
- 10. Mr. Roy has a drove of 16 cows. His boy drove \(\frac{2}{3}\) of them on the hill to pasture, and the rest were kept in the lot at home; how many cows are kept in the home lot?
- 11. The hen-house is 15 feet away from the barn; how many yards did John walk in going from the barn to the house and back?
- 12. Belle found 4 hen's nests with 4 eggs in each nest. She left an egg in each, and took the rest to the house; how many eggs did she take out of the nests?

- 13. Mattie wound 5 yards of cord into a ball, but afterward cut off 2 feet of it for a top-string for her little cousin; how many feet of cord were left on the ball?
- 14. Kitty had a pair of new shoes with 8 buttons on each shoe, but the first time she wore them, she lost 3 buttons off one shoe, and 1 button off the other; how many buttons were left on the shoes?
- 15. If ½ pound of cheese cost 4 cents, what will a pound cost?
- 16. Little May Bowne has 4 dolls, and each doll has 2 pairs of shoes. Last night she put them to bed, and put *all* their shoes in a box; how many shoes were there all together?
- 17. Tom drove Lulu in his cart to her aunt's and back, 4 miles each way; how many miles did they drive?
- 18. If ½ gallon of vinegar cost 16 cents, what will a pint cost?
- 19. The boys and girls are all on the hill coasting; 7 are going down the hill, 5 coming up, and 4 looking on; how many children are on the hill?
- 20. Fred skated 9 times around the pond; if it is \(\frac{1}{2}\) mile around, how many miles has he skated?

- 21. The boys are playing soldier, and marching 4 abreast down the street; if there are 4 rows, how many boys are there?
- 22. Peanuts are 8 cents a quart; what will 2 quarts cost?
- 23. Eddie's pony travels 1½ miles in a quarter of an hour; how many miles can he travel in an hour?
- 24. Robert went after the cows one evening to drive them home, and found that they had broken the fence and gone off; he found 4 down by the pond, 3 in the woods, and 9 away down the road. How many cows were there all together?
- 25. Paul had 16 marbles, but Charley won \$\frac{1}{2}\$ of them, and he lost 3; how many had he left?

Seventeen. 17. XVII.

- 1. When Charlie opened his bank, he found 2 five-cent pieces, 1 two-cent piece, 1 three-cent piece, and 2 pennies; how much money had he?
- 2. Ross had 17 cents; he bought an orange for each of his 2 little sisters, at 5 cents each, a top for his brother for 5 cents, and spent what

was left for candy; how much did he spend for candy?

- 3. When Willie came home from school, his mother told him that the cistern was dry, and he would have to bring her some water; she gave him a half-gallon pail, and told him to fill the tub in the back yard, that held 8 gallons. How many pailfuls did it take to fill the tub?
- 4. John's father told him to count the ducks before he shut them up for the night. 9 were in the pond, 5 were eating corn, and 3 were in the coop; how many ducks did they have?
- 5. Mrs. Brown bought 2 rolls of wall-paper, for which she paid 1 cent a yard; if there were 8 yards in each roll, how much did she pay for it?
- 6. If you have 10 cents in your pocket and 7 in your hand, how much money have you?
- 7. If I give away \(\frac{1}{2}\) of my orange, what part of it will I have left?
- 8. John broke 1 egg out of a dozen; what part of the dozen did he break?
- 9. From a can containing a gallon of oil 1 pint leaked out, and a quart was used; how much oil was left in the can?

- 10. Ned saw a sailing-vessel in the bay, with 17 men on board; 3 were cleaning the deck, 1 had climbed the mast, 2 were pulling in the anchor, and the rest were in the cabin; how many men were in the cabin?
- 11. Roy brings his mother ½ bushel of coal from the cellar every morning; how many bushels does he bring in 2 weeks?
- 12. Fred's 3 cousins are coming from the country, to spend the Christmas holidays with him. Kate is 17 years old, Tom is 5 years younger, and Harry is just ½ the age of Tom; how old is Harry?
- 13. Walter bought 17 eggs of Mr. Stewart, but on reaching home, he found that 1 was a duck's egg. He did not use that, but took the rest and put them under 2 hens; if he divides them equally, how many eggs can he put under each hen?
- 14. One hen hatched all the eggs, but the other brought off only 6 chicks; how many little chicks had both hens?
- 15. Old Fido has 8 little puppies, but Willie is going to keep only 1 of them, and is to give 2 to his cousin; the rest he wants to sell. How many has he for sale?

- 16. 5 sleds are going down the hill, with a boy and 2 girls on each sled; how many children are coasting down the hill?
- 17. Two boys have made a snow-man 5 feet high, but when they put a high hat on him, it made him a foot higher; how many yards high is he with his hat on?
- 18. 12 boys went on the hill to fly their kites, but only ½ of the boys were able to raise theirs; so the rest went off to play ball. How many are playing ball?
- 19. Frank fastened a string at the foot of a tree, and then took the end in his hand and climbed the tree to see how high he could get; when he had climbed as far as he could, he came down and measured the string, and found it was just 5% yards long. How many feet did he climb?
- 20. Clara stays ½ hour after school 3 times a week, for drawing-lessons; how many hours does she stay in 3 weeks?

Eighteen. 18. XVIII.

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1. When cheese is 18 cents a pound, how much can I buy for 6 cents?

- 2. What will ½ dozen lemons cost, at 3 cents each?
- 3. How many oranges can May buy for 18 cents, when they are 12 cents a dozen?
- 4. George Jones had 5 marbles; he won 11, and gave ½ of what he then had to his brother Walter, who had 10. How many had Walter then?
- 5. Katie has 3 rose-bushes in her garden, and she is going to pick all the roses that are on the bushes, to give to her mother for her birthday. She had 7 red ones, 5 white ones, and 6 pink ones; how many roses has she for her mother?
- 6. I had a dime and a half, and bought dozen lemons at 2 cents each; how much money had I left?
- 7. How many miles does Fred walk in a week, to and from school, if he lives ½ mile from the schoolhouse, and does not go home to lunch?
- 8. If I cut a melon into 7 pieces, and give 3 of the pieces to my sister, what part of the melon do I keep?
- 9. Henry bought 18 marbles, and gave 3 of them to his brother; how many did he keep?

- 10. Into how many pieces will I have to cut a half-melon, so as to give 5 boys each a piece, and what part of the whole melon will each boy have?
- 11. If eggs are 12 cents a dozen, how much change will I have out of a dime, if I buy a half-dozen?
- 12. What must I pay for ½ gallon of oil, at 4 cents a pint?
- 13. Susan filled 13 pint pans with milk; how many gallons did she use?
- 14. Sarah bought & dozen oranges, and paid 5 cents apiece for them; how much had she left out of 18 cents?
- 15. Clara went to the baker's and bought a loaf of bread for 9 cents, and some cake for 5 cents; how much did she spend?
- 16. A fisherman, one afternoon, lost one of his oars. 6 boys who were out in a boat near by caught it as it was drifting by, and took it to him; he gave them 18 cents, to be divided equally among them. How much was there for each boy?
- 17. Lilly counted the steps of the hall stairs, and found there were 18. Her mother told her it took ½ yard of carpet for each step; if carpet

is a dollar a yard, how much would a new staircarpet cost?

- 18. Mrs. Williams made her little girl 6 new aprons, and used 3 yards of lace on each; how many yards of lace did she use?
- 19. Lottie says there are 2 sofas, 6 chairs, and a rocking-chair in her mother's parlor; if 3 persons can sit on each sofa, how many persons will have a seat in the room?
- 20. Frank and Fred went out on their ponies one afternoon, to see which pony was the faster. They rode 9 miles in a circle. Fred reached the starting-point first; so he went back 2 miles and met Frank, and both came back together to the starting-place. How many miles did Fred ride?
- 21. It takes 5 strips of carpet, each 3½ yards long, to cover our sitting-room floor; how many yards of carpet does the room take?
- 22. Millie went to the store for her mother and bought 3 spools of cotton at 5 cents a spool, and ½ dozen buttons at 6 cents a dozen; how much money did she spend?
- 23. Mary has 2 red birds, and they eat a pint of seed a week; how many weeks will 4 quarts last them?

- 24. Willie has two shelves in the bookcase to hold his own books; he has 7 books on one shelf, and 11 smaller ones on the other. How many books has he?
- 25. James wanted to find out how deep the mill-pond was; so he took a stick that he knew was 3 yards long, and went out in a boat to the middle of the pond, and put the stick down in the water until it touched the bottom. One foot of the stick was out of the water; how deep was the pond?

Nineteen. 19. XIX.

- 1. I found a dozen eggs yesterday, and 7 eggs to-day; if I sell them all for a cent each, how much will I get for them?
- 2. Charley is 19 years old, and his sister Lucy is 12; how much older is Charley than Lucy?
- 3. Eddie has 6 black hens, 4 white ones, 5 speckled ones, and 4 brown ones. They each laid an egg yesterday, and he sold them for a cent apiece. After buying a slate and pencil for 12 cents, how much had he left?
- 4. A grocer had 19 melons to sell, and at night found he had 3 left; how many had he sold during the day?

- 5. There are 19 boys in Edward's class, and 5 girls less. The boys are reading and the girls are writing; how many pens are they using?
- 6. Nellie is playing on the seashore, and has marked out a square with shells; if she has 4 shells on a side, and 3 in the middle for a house, how many shells has she used?
- 7. There are 3 boys and 7 girls skating on the pond. They have each a pair of skates, excepting 1 boy, who has broken one of his, and is using only 1 skate; if you should count all the skates, how many would there be?
- 8. Will went to the circus and saw a giant there 8½ feet high. Will is 3½ feet high; how much higher is the giant?
- 9. In the street where Hattie lives there are 10 houses on one side of the way, and 9 on the other; 5 of them are painted white, 6 cream color, and the rest brown. How many houses are painted brown?
- 10. When Harry first went to school, he was in his class a year all but 4 months; he has been 7 months in the next higher class; how long has he been at school?
- 11. If I divide 18 plums equally among 3 boys, how many will 2 of the boys have?

- 12. There are 2 windows in Emma's bedroom, with 8 panes of glass in each window; how many panes in both windows?
- 13. Annie spent 3 cents for some cotton, which was $\frac{1}{6}$ of her money; how much money had she?
- 14. A farmer had 12 sheep, but 2 died, and he killed 1; he then bought 10 more. How many had he then?
- 15. Lucy goes to see her aunt once every month; how many times does she go in a year?
- 16. How many spools of cotton, at 6 cents a spool, can I buy for 18 cents?
- 17. There are 19 fruit-trees in Mr. Merritt's yard. 7 are apple-trees, 6 are plum, and the rest are cherry; how many cherry-trees has he?
- 18. 10 pounds of flour last Mrs. Kent 10 days; how long will 19 pounds last her?
- 19. A farmer had 19 barrels of potatoes. He sold 8 of the barrels for fifteen dollars, but the rest were so small that he could get only a dollar a barrel from the grocer for them; how much did the grocer give him for them?
- 20. Mrs. Martin went shopping with \$19. She spent \$1 for car-fare, and bought a dress

for her little girl for \$3, each of her 2 boys a pair of shoes at \$2½ a pair, and spent ½ of what was left for a bonnet for herself; how much did she have left?

Twenty. 20. XX.

- 1. May's father gives her \$2 every birthday, to put in the bank; how much will she have when she is 10 years old?
- 2. Lemons are 20 cents a dozen; how many can I get for a dime?
- 3. Nat gave 3 cents for 5 figs; how much would 20 cost, at the same price?
- 4. Clara's teacher gives the little girls in her class each a ticket every morning they come early. Clara has been late 2 mornings in 4 weeks; how many tickets has she?
- 5. Charley's brother bought some books, and gave the bookseller a dollar a month until they were all paid for; it took him a year and 8 months to pay for them; how much did the books cost?
- 6. Donald has 4 five-cent pieces; how much money has he?
- 7. Anna went to the baker's and bought 2 loaves of bread at 9 cents a loaf, and gave the

- baker 2 ten-cent pieces; how much change did he give her?
- 8. Louis had a basket with 20 eggs in it; he sold 5 of them to the milkman. How many had he left?
- 9. What will 2½ pounds of rice cost, at 8 cents a pound?
- 10. Apples are a cent each; how many can I buy for $\frac{2}{5}$ of a dime?
- 11. I gave every boy in my class a cent, using 2 dimes; how many boys were in the class?
- 12. Nat had 20 chickens, but a cat caught \(\frac{1}{3} \) of them; how many were left?
- 13. There are 20 soldiers standing in 2 rows in front of a fort; how many soldiers in a row?
- 14. If I have 5 apples, and cut each into thirds, to how many children can I give each a piece?
- 15. Henry has been naughty, and must make up 10 hours after school; if he stays ½ hour a day, how many days will it take him to make up the time?
- 16. Agnes bought a dozen lemons for her mother, but she found she had not enough, so

she went back for 8 more; if they were 2 for a cent, how much did she pay for them?

- 17. How much milk will I have left out of a gallon, if I drink a gill of it?
- 18. May's father gives her \$3 every 3 months; how much money does he give her in a year?
- 19. Luther paid 20 cents for 4 bananas; how much was that for one?
- 20. Twenty pounds of butter will last a family 5 weeks; how much butter do they use a week?
- 21. Crackers are 20 cents a pound, but Fanny has money enough for only \(^2\) of a pound; how much money has she?
- 22. George picked 10 quarts of strawberries before he went to school, and put them in pint baskets; if he sells them for a dime a basket, how many dimes will he get for them, if he keeps a quart for his supper?
- 23. Mrs. Ward made 2 gallons of coffee for the men who were at work on her farm; if each man drank a pint, how many would it serve?
- 24. It takes 2 rows of hooks, with 10 in a row, to hold the boys' hats in Miss King's class; but this morning 3 of the hooks are not used. How many boys are present?

GRADED PROBLEMS.

THIRD YEAR.

20 to 30; XX to XXX.

- 1. Harry's father took him to the county fair, where he saw some pretty little chickens. Five of them were white, 3 times as many black; there were as many brown as black, and 4 times as many speckled as white ones. How many chickens did he tell his mother he saw?
- 2. James won 20 marbles, and the next time he played lost ‡ of them; how many marbles were left?
- 3. If a baby should drink 2 pints of milk every day, how many days would it take her to drink 5 gallons?
- 4. Edna's mother promised to give her 4 cents every day that she did not have her name taken for being naughty in school. The first week she was perfect, the next week she was naughty two days, the third week she had her

name taken once, and the fourth week she was good every day. How much money did she get during the month?

- 5. A man sold some sheep for \$21, which was \$8 more than they cost; how much did he pay for them?
- 6. How much would 3½ quarts of pop-corn cost, if 1 pint is worth 3 cents?
- 7. Lulu had 7 yards of narrow ribbon which she made into bows, using ½ of a yard for each; how many bows did she make?
- 8. If I cut 6 apples into quarters, to how many children could I give a piece?
- 9. Annie divided 6 oranges so that each of her 23 little visitors should have as much as she gave herself; how much of an orange did she give each?
- 10. James and Dick picked 3 pecks of berries, which they sold for 8 cents a quart; how much money did they receive?
- 11. On an old apple-tree there were 24 large red apples, but the wind blew off $\frac{2}{3}$ of them; how many were left on the tree?
- 12. A man bought 2 dozen lemons worth 3 cents apiece; how much did he pay for them?

- 13. A little boy bought 3 pencils at 3 cents apiece, 2 tops at 4 cents apiece, a slate for 6 cents, and a blank-book for 7 cents; how much did he spend?
- 14. John sold 3 pecks of plums at the rate of 7 cents a quart; how much money should he receive?
- 15. A little boy who lives near a large pond, traps all the muskrats he can find. If he should catch 2 every month, how many would he catch in a year?
- 16. A party of 8 little girls, who were dressing their dolls, had 20 yards of ribbon to divide equally among themselves; what was each one's share?
- 17. One day Alice ran into the house and asked her aunt Sadie for some money to buy candy with. She received 24 cents, but was told to give \$ of it to each of her 5 cousins and keep the rest; how much did she give away? What did she keep?
- 18. What should I pay for 2 dozen eggs, when 6 are worth 24 cents?
- 19. Bessie had 25 sticks of candy. She gave her little sister $\frac{1}{2}$ of them, and ate $\frac{1}{2}$; how many sticks of candy were left?

- 20. Dan had 26 cents, and each of his 3 brothers gave him 25 cents; how much had he then?
- 21. One day Susie counted 25 ducks swimming on the pond. The next day she could only count 15; how many were missing?
- 22. Some hunters fired at a flock of 25 wild pigeons, and shot $\frac{2}{3}$ of them; how many flew away?
- 23. Hugh went nutting, and found 6 nuts under the first tree, 3 times as many under the second, 25 under another, and $\frac{2}{3}$ as many as were under the last tree, lying in a pile on the ground. How many nuts did he gather?
- 24. One Friday morning when Ben was going to school, his mother gave him 25 cents for doing an errand. On his way home he lost ‡ of his money, but that evening his father gave him 25 cents for weeding the garden. How much had he then?
- 25. A teacher gave a lazy boy, who never studied his lesson, 25 easy words to spell. He missed $\frac{1}{2}$ of them; how many were right?
- 26. Mills' uncle gave him 25 cents. He spent 5 cents for candy, and gave his little brother 5 cents; what part of his money did he keep?

- 27. If spring chickens are worth 25 cents a pound, how much would a pair of them cost, each weighing 2½ pounds?
- 28. Ned had 26 peaches on his tree, and his brother Harry had only half as many; how many peaches did Harry have?
- 29. When turkeys are worth 23 cents a pound, how much would one weighing 9 pounds cost?
- 30. Sarah's mother went to the city to spend the day and brought home half a pound of figs, giving each of her 2 children ½ of them. What part of a pound did each have, and how many ounces?
- 31. If lemons are worth 3 cents apiece, how much should I pay for 4 of a dozen?
- 32. Jack has 27 marbles, but his brother has only 18; how many more has Jack?
- 33. Mary had 28 little chickens, and her cousin Jennie had \ as many; how many chicks did Jennie have?
- 34. Oscar walked to his grandmother's, a distance of 28 miles, in 4 days; how many miles did he walk each day?
- 35. A lady who took a pint of milk every day, asked to have her bill sent in at the end of

each week; what would the bill amount to if milk was selling for 8 cents a quart?

- 36. William had 22 cents in his pocket-book; his mother gave him 2 dimes, his father a silver quarter, his sister half as much as he had at first, and his uncle John 6 five-cent pieces. How much money had he then?
- 37. At 5 cents apiece, how much will half a dozen oranges cost?
- 38. Charlie had 30 cents. He spent \(\frac{1}{2} \) of it and lost a five-cent piece; how much of his money was left?
- 39. Walter's teacher gave him 30 words to write in sentences. ‡ of them were wrong; how many were right?
- 40. Julia invited 3 little girls and their 2 little brothers to her birthday party. She had 30 mottoes, which she wished to divide equally among her friends; how many did she give each?
- 41. Joseph lives ½ mile from the schoolhouse and goes home to his dinner every day. How many miles would he walk in 3 weeks if he is not absent a day?
- 42. Fred bought 3 pounds of sugar at 10 cents a pound, ½ pound of crackers worth 18

cents a pound, half a dozen lemons at 28 cents a dozen, and 4 oranges at 5 cents apiece. He gave a dollar bill in payment; how much change should he receive?

- 43. When Malaga grapes are worth 30 cents a pound, how much should I pay for 2½ pounds?
- 44. A farmer has 4 cows, each of which gives 7½ quarts at a milking. How much milk does he get at each milking, and how much a day?

30 to 40; XXX to XL.

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- 1. Nora has 15 cents in her bank, and Eva has twice as many, and one cent more; how much has Eva?
- 2. A farmer sold 8 gallons of milk by the quart; how many quarts did he sell?
- 3. If he received 32 cents for each gallon of milk that he sold, how much did he charge for a pint?
- 4. Four little boys gathered a bushel basket of hickory nuts, which they sold from house to house for 10 cents a quart. What was each boy's share of the money received?
- 5. Jane sold 32 quarts of peas from her own garden. If she charged 40 cents a peck, how much money did she receive?

- 6. Anna was sent to the grocer's for 7 pounds of sugar, which was selling at the rate of 3 pounds for 33 cents; how much money must she take to be able to pay for it?
- 7. Stewart had 35 little chickens, but a hawk visited the hen-house several nights and carried away 17 of them; how many chicks were left?
- 8. Grace bought a quarter of a pound of wool for 35 cents. The next day her mother sent for a pound of the same kind; how much did it cost?
- 9. A tailor, who engaged board for \$5 a week, found at the end of 7 weeks that he had no money to pay his bill, so gave in payment vests which were worth \$5 apiece. How many vests did it take to pay the bill?
- 10. If I should buy a dozen lemons for 36 cents, how much would I pay apiece for them?
- 11. Carrie had 36 candies. She gave ½ of them to her little brother, ½ to her sister, and ate ½ of what was left; how many did she keep?
- 12. Henry sold to a grocer 36 eggs at 25 cents a dozen. How much money should he receive?

- 13. If 9 peaches cost 36 cents, how much would 2 cost?
- 14. A little girl bought a quarter of a yard of ribbon for 9 cents. What was the price of a yard?
- 15. Jane bought \(\frac{1}{4}\) of a pound of crackers at 16 cents a pound; \(\frac{1}{2}\) pound of butter at 28 cents a pound, \(\frac{1}{4}\) pound of cheese at 20 cents a pound, and \(\frac{1}{3}\) of a dozen lemons at 36 cents a dozen. What was the amount of her bill?
- 16. Mrs. Davis bought a piece of muslin containing 36 yards. She sold 4 to her sister and 4 to a friend; how many yards did she keep?
- 17. Maggie bought 7 apples with her money, which was $\frac{1}{2}$ of 21 cents. How many apples could her mother buy with 37 cents?
- 18. Lucille had \(^1\) of a yard of silk, from which she cut a half yard to make her doll a dress; how much of the silk was left?
- 19. If 3 gallons of oil cost 39 cents, how much would 2 gallons cost?
- 20. Mr. Wright had a flock of sheep, which he wanted to keep in 4 fields. If he put 39 in each, there would be 15 left over; how many sheep had he?

- 21. Ralph lost i of his money. If he had 39 cents, how much did he lose? What had he left?
- 22. A dressmaker made 6 dresses one week, and sewed 2½ dozen buttons on each. How many buttons did she use?
- 23. If I can buy 3 peaches for a cent, how much should I pay for 3 dozen and 3?
- 24. When cider is worth 2½ cents a pint, how much should I pay for 2 gallons?
 - 25. Ida paid 40 cents for 4 quarts of peanuts; what did she pay for each pint?
 - 26. A man who kept a restaurant sold 8 gallons of ice-cream in a day. How many plates of cream did he sell, if a quart would fill 6 plates?
 - 27. Mr. Brown told his son that he would give him 5 cents every time he shovelled the snow from the sidewalk. One windy day he cleaned the walk 6 times in the morning and ½ as many times in the afternoon. How much money did he earn?
 - 28. Sam worked # of a day for Mr. Smith, and 3 half-days for Mr. Black; how many days did he work?

- 29. One morning Marion's father told her if she would pick all the ripe berries in the garden and take them to his customers, he would let her have the money she received, to put in her bank. She picked 20 quarts of berries, which she put in baskets holding a pint each; how many baskets did she have?
- 30. If she received 8 cents for each basket, how much money did she make?
- 31. One summer day 3 little boys climbed a mountain for huckleberries. One of them picked \$\frac{1}{2}\$ of a peck, another \$\frac{1}{2}\$, and the third \$\frac{1}{2}\$; how many pecks and quarts of berries did they have?
- 32. Mrs. Devins gave Ethel a surprise party on her birthday. She invited 40 children, and gave each one a pretty box filled with candy to take home. How many boxes did she buy, and how many pounds of candy, if it took 4 ounces to fill a box?

40 to 50. XL to L.

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1. Edith bought 6 yards of cambric at 7 cents a yard, and after paying for it had 40 cents left. How much money did she take with her?

- 2. Etta bought 8 ounces of candy for 22 cents. What would 5 pounds cost?
- 3. Gilbert's teacher told him to measure the school organ. He found that it was 3½ feet long, but gave his answer in inches; how many did he say?
- 4. Sister Delia went to the city shopping. When she came home she had just \$5 left in her purse, which was \(\frac{1}{2}\) of the money she took with her. How much did she spend?
- 5. A woman who kept a candy and fruit stand had just filled a glass jar with 100 sticks of fresh candy, when 9 little girls came along. Each stopped and bought 5 sticks of this candy; how many sticks were left in the jar?
- 6. If a quarter of a yard of cloth cost 45 cents, how much would mamma pay for a dress for Nellie, if she bought 5 yards?
- 7. How many hours must a boy work to earn \$2.25, if he receives 5 cents for every hour he works?
- 8. Albert received 45 cents for 11 dozen eggs; what was the price of each egg?
- 9. Maria, Nettie, and Will had just divided an apple among themselves when a little girl came in to play with them. Maria gave her

friend a half of her piece; what part of the whole apple did she give away?

- 10. Herbert asked his cousin Ned to play a game of marbles with him. He began with 145 marbles, but when the game was ended he had 190, having won all of Ned's. How many marbles did Ned have at the beginning?
- 11. Mrs. Niles sold 48 eggs for 20 cents a dozen, and received 75 cents for them; how much more money should she receive?
- 12. What is the difference in the cost of 10 yards of calico at 5 cents a yard, and 6 yards of muslin at 8 cents a yard?
- 13. Uncle Isaac gave his little niece \$3.68 to divide equally among her 7 brothers and herself; how much of it did she keep?
- 14. If a peck of pears cost ‡ of a dollar, what must I pay for a half-bushel?
- 15. Five little girls went to the seaside to spend the day, and each bought a little spade and a quart pail. After filling and emptying their pails 5 times they became tired of digging in the sand, and started for a walk along the beach. How many pints of sand did they throw out?

- 16. A little girl bought a quarter of a yard of ribbon for a doll's sash, which cost 6½ cents. How much would 2 yards of this ribbon cost?
 - 17. Alfred's father gave him 50 cents for picking cherries. He bought 10 marbles at a cent apiece, 2 balls for 3 cents each, and put the rest in his bank; how much money did he put in the bank?
 - 18. Bertie sold a pair of chickens at 50 cents apiece. He spent ½ of his money for marbles worth 5 cents each; how many marbles did he buy?
 - 19. If 5 quarts of beans cost 50 cents, how much would 1 peck cost?
 - 20. Edmund bought 10 marbles at 5 cents apiece, 6 tops at 8 cents apiece, and 3 kites worth 15 cents each. He gave in payment for them a 2½-dollar gold piece; how much change should he receive?
 - 21. If a half-pound of yarn cost 50 cents, how much would $2\frac{1}{2}$ pounds cost?
 - 22. If one side of a schoolroom is 16[‡] yards long, how many times would Willie have to use his foot-rule to measure it?
 - 23. Irone's mother gave her a half-yard of blue silk to use for her doll. She cut off + of

- a yard for her sister; how many tenths did she keep?
- 24. A gentleman received a milk-bill of \$2.80 every week. How many quarts were left at his house each day, if a pint cost 4 cents?
- 25. Bertha received 3 cents every morning that she was early to breakfast, but when she was late she had to give her mother 2 cents. One week she was late 3 times, the next week she was late twice, another week once, and the fourth week she was only early one morning. How much of her money did she keep during the month?

50 to 60; L to LX.

- 1. One day 7 little girls went to the store to buy jumping-ropes. 2 of them, who had more money than the rest, paid 25 cents for their ropes, while the others paid only 10 cents for theirs. How much did they spend?
- 2. Fred Adams had 50 marbles, and Eddie McMahon had 25. While at play for "keeps" Fred won ? of Eddie's marbles; how many did each boy have then?
- 3. Edward carried 51 eggs to market, and sold them all for 24 cents a dozen. He received

in payment a half-dollar silver piece and 3 dimes; how much more should he have had?

- 4. Jerry had \$1.46 in his bank, but took out 95 cents to buy his father a birthday present; how much did he leave in his bank?
- 5. Robert earns \$52 a month. If he spends \$25 and pays \$5 a week for his board, how much money will he save in the month?
- 6. If he saved the same amount from his salary every month, how much would he save in a year?
- 7. A father gave his 3 sons and 2 daughters together 53 dollars and 50 cents to spend for Christmas presents for their friends. How much did each spend if they had an equal amount?
- 8. Hattie knit a shawl in 54 hours. How many days did it take her if she worked 6 hours every day?
- 9. George sold his new knife and gained 9 cents, which was $\frac{1}{6}$ of what he paid for it; how much did he pay for it?
 - 10. For how much did he sell his knife?
- 11. One day Peter earned 54 cents, but on his way home lost $\frac{2}{3}$ of it through a hole in his pocket; how much had he left?

- 12. Sister Emma bought 18 yards of silk at 3 dollars a yard, 10 yards of lining at 6 cents a yard, 6 spools of silk at 9 cents a spool, and 1½ dozen buttons at 60 cents a dozen. How much did her dress cost, if she paid \$25 for having it made?
- 13. A boy who had 236 marbles asked his 3 little cousins to play with him. They had no marbles of their own, so he offered to share his equally with them. How many marbles did he give away?
- 14. Susan went to the store to buy some things for her mother, who gave her 56 cents. If what she bought cost 28 cents, how much money should she take back to her mother?
- 15. Myron had more tomatoes in his garden than the family could use, so he sold them for 9 cents a quart; how much money did he receive for 1 bushel and 3 pecks?
- 16. Harold's mamma gives him 2 oranges every day; how many would she give him in 4 weeks?
- 17. One pleasant morning in the fall, Martin and Emily helped their father gather apples. Martin picked up 115 apples under one tree, and his sister found 57 under another; how many more apples did Martin gather than Emily?

- 18. Gretchen's mother went out for a walk and brought home a quarter of a pound of candy, giving each of her 2 children ½ of it; what part of a pound did each have, and how many ounces?
- 19. Louis went nutting and brought home 275 nuts. He gave each of his 3 brothers 52 nuts and his little sister 60; how many did he keep?
- 20. If my watch loses 5 minutes a day, how many hours will it lose in 1 week and 5 days?
- 21. If Archie should bring me 60 duck's eggs, and I should set $\frac{2}{5}$ of them under two hens and 15 under an old duck, how many eggs would I have left?
- 22. Elsie went to the fruit store to buy a dozen oranges to cut up for supper. She paid 60 cents for them; how much did they cost apiece?
- 23. A merchant sold 5 dozen hats, which he packed in boxes. He found that he could only put 6 hats in a box; how many boxes did he use?
- 24. A grocer bought 5 dozen lemons at the rate of 2 for 3 cents, and sold 2 of them for 5 cents; how much would he make if he sold them all at this rate?

- 25. Brother Tom bought 4 ounces of candy for 15 cents, which he gave to his little sister. A lady coming into the store just as they were leaving asked for 2 pounds of the same kind. How much did she pay for it?
- 26. A farmer having 500 sheep sold 225 of them to a butcher and 217 to a farmer; how many did he keep?

60 to 80; LX to LXXX.

-0'ato

- 1. Minnie had 63 cents. She spent $\frac{2}{3}$ of it for a picture-book, and 5 cents more for candy; how much had she left?
- 2. Mrs. Blake gave her cook 4 pounds of chocolate, telling her to use 1 ounce of it every morning for breakfast instead of coffee; how many days should it last?
- 3. A lady bought a half pound of tea worth 32½ cents. She liked it so well that the next day she sent her girl for 2 pounds more; how much did the servant pay for what she bought?
- 4. Dora's mother bought a basket of very nice peaches, and told her little girl that she might eat 2 of them if she would put 25 of the best ones into a smaller basket for her aunt Annie. How many peaches did the mother

keep, if there were 95 in the basket when she bought them?

- 5. How much should I pay for a half-peck of potatoes, if they are selling for 72 cents a bushel?
- 6. Bella and Winfield went into the woods to gather chestnuts. When they had filled their basket they sat down on a stump to rest and count their nuts. Bella threw 175 into the basket, and Winfield put in 140; but there was a little hole in the bottom, and on their way home 245 nuts dropped out. How many did they have when they reached home?
- 7. David's father gave him a cow, and said, if he would take good care of her and milk her every day, he would let him keep all the money he received from selling the milk. One morning, after milking, he had 9 quarts in his pail, which he sold for 72 cents; how much did he get for a pint?
- 8. Uncle Hiram spent 36 cents for pears at the rate of 2 for a cent, and divided them equally among his 3 nephews and 5 nieces; how many did he give each?
- 9. If beets are worth 70 cents a bushel, how much would 8 pecks cost?
- 10. At 3 cents apiece, how many dozen eggs could you buy for 72 cents?

- 11. A man sold 75 baskets of strawberries for 9 cents a basket; how much money did he receive?
- 12. Amy has 10 dollars and 7½ dimes in her bank, but her brother Frank has 4 dollars and 8 dimes less than his sister; how many dollars and cents has he in his bank?
- 13. Clara is very fond of bananas, and her papa often brings her some from the city. One night he brought home a large bunch, for which he paid 75 cents; how much did they cost apiece, if there were 6½ dozen bananas on the bunch?
- 14. Ellis put 998 beans in a glass jar, and asked his cousin Henry to guess how many were in the jar. He thought awhile, and then said, "919 beans." How many more should he have guessed?
- 15. Elmer's aunt gave him \$2.25 to divide equally among his 2 sisters and himself; how much did he keep?
 - 16. How much money did he give away?
- 17. Isabel's eldest sister had a present of \$75.25. She bought a pretty dress for \$25.17 and a cloak for \$35, and put the rest of her money in the bank; how much did she put in the bank?

- 18. A farmer planted in rows 675 hills of potatoes. If he put 9 hills in each row, how many rows did he plant?
- 19. Gertrude's winter hat cost \$4.75, and her sister bought one for \$5.55; how much more did the sister's hat cost than Gertrude's?
- 20. Selma has a narrow strip of wood 2 yards and 7 inches long, which she is cutting up into inch measures; how many pieces will she have?
- 21. Mamma bought 2 dozen boxes of toilet soap. If there were 3 cakes in each box, and each of them cost 6 cents, how much did she pay for the soap?
- 22. Catherine went to the grocer's and ordered 2 pounds of coffee at 35 cents a pound, ½ pound of tea at 76 cents a pound, 7 pounds of sugar at 11 cents a pound, 2 pounds of butter at 38 cents a pound, and 5 pounds of crackers at 16 cents a pound. How much was her bill?
- 23. Ruth had 5 cents to spend for candy. The kind she wanted cost 80 cents a pound; how much of this candy could she buy with her money?
- 24. Katie bought a pound of worsted for \$2.08. She expected to knit 2 shawls with it, but found that she needed 2 ounces more to

finish the second one; how much did she pay for them?

- 25. A grocer bought 19 bushels of apples, which he measured with a peck measure. If he paid 10 cents for each peck, how much did the apples cost?
- 26. If he sells his apples for 3 cents a peck more than he paid for them, how much money will he make?
- 27. How much should I pay for 3 pints of molasses, if 2 gallons cost \$1.60?
- 28. How many hours of instruction would John have in 3 weeks, if there are 5 hours in each school day?

80 to 100; LXXX to C.

- 1. Carl paid 45 cents for marbles, getting 9 for every 5 cents he spent, and divided them equally with 2 of his friends; how many did he keep?
- 2. Bayard sold 21 dozen eggs for 81 cents; how much did he get apiece for them?
- 3. A man bought a cow for \$75. He had not enough money in his pocket-book to pay for her, so gave a check for a hundred dollars

which he had in one of his pockets. How many dollars should be given back to him?

- 4. Aunt Lillie gave Jeannette a new bank on her birthday, and, as she handed it to her, dropped in a bright new dime. Her father, mother, 3 brothers, 2 sisters, 5 uncles, and 6 cousins each put in a 5-cent piece; how much money did she have in her bank?
- 5. Loring set 6 hens, putting 15 eggs under each. 3 of them hatched all of their eggs, 2 came off their nests, each with 13 little chicks, and the sixth had 14. This little boy took good care of his chickens, but one morning he ran into the house crying because 5 of them could not be found; how many chicks did he have that morning?
- 6. When his chickens were large enough to eat, he agreed to sell 4 pairs every week to a man who kept a hotel; how many weeks before they were all sold?
- 7. How much money did Loring receive each week, if he charged 50 cents apiece for them?
- 8. If he put this money in the bank, how much did he have when all of his chickens were sold?
- 9. Mr. Peck paid \$125 for a buggy, and 4 times as much for a team of horses; how much did he pay for both?

- 10. Mr. Worms paid \$135 for 75 yards of silk, which he sold for \$3 a yard. How much did he make?
- 11. Miss Smith spent a dollar for handkerchiefs, paying 20 cents apiece for them; how many did she buy?
- 12. A boy gathered 100 chestnuts under one tree, but $\frac{3}{10}$ of the nuts were wormy, which he threw away; how many good ones did he have?
- 13. If I sell 3 gallons of milk for 8 cents a quart, how much money will I receive?
- 14. Mrs. Peck bought a dozen oranges from a man who was selling 3 for 25 cents; how much did she pay for them?
- 15. Bought 5 pounds of crackers for one dollar; how many pounds of the same kind could you buy for 3 dimes?
- 16. Mattie picked 12 quarts of blackberries, and sold them for 4 cents a pint; how much did she get for her berries?
- 17. Mr. Nostrand wants to send his potatoes to market in bushel baskets. How many baskets will he need, if he has 100 pecks of potatoes?
- 18. How many quarts of vinegar at 5 cents a pint can be bought for a dollar?

- 19. Lucy made a quilt containing 290 pieces, and her mother made a silk one which had 389 pieces in it; how many more pieces were in the mother's quilt?
- 20. If there are 365 days in one year, how many days would there be in 3 years and 5 weeks?
- 21. A party of 6 went out fishing in a sailboat. One of the ladies caught 12 fish, another caught twice as many, and the third did not have a bite; but the gentlemen caught as many again as the 3 ladies. They gave half of the fish to the captain, and carried the rest home; how many fish did they take home?
- 22. A little boy started to carry a basket containing 9 dozen eggs, but he fell, and broke 30 hen's eggs, 25 turkey's eggs, and 15 duck's eggs. How many were not broken?
- 23. 4 boys bought a boat together for \$140, each paying an equal amount. What part of the boat did each own, and how much did he pay for it?
- 24. A farmer has 478 bushels of grain in a bin that will hold 1000 bushels. How much more grain does he need to fill the bin?
- 25. Mabel's father paid \$10.50 for 7 baskets of peaches, and sold each basket for 25 cents

more than it cost; how much did he charge a basket?

- 26. How much did he make on all of his peaches?
- 27. A stock farmer paid \$500 for a team of horses, \$325 less for a flock of sheep, and \$75 apiece for 9 cows; how much did his stock cost him?
- 28. A lady who had \$120, paid \$50 for a set of furs, and \$3 a yard for 17 yards of silk; how much of her money has she left?
- 29. Willie bought 4 pounds of nice dates for 80 cents. He sold 8 ounces to each of his 3 playmates, and his mother and auntie each bought a pound. How many dates did he have left, and what did they cost?
- 30. Rebecca and Fannie played 5 games of dominoes before they could make a hundred points. Rebecca won 3 games, making 35 once and 32 twice, but Fannie made 50 each time that she won. Who beat, and by how many points?
- 31. Viola made 100 paper flowers for a fair. t of them were snowballs, which sold for 5 cents apiece; t were roses, and sold for 3 cents each; and the rest were violets, which brought a cent apiece. How much money was made from her flowers?

GRADED PROBLEMS.

FOURTH YEAR.

100 to 1000; C to M.

- 1. James Brown earns \$1250 a year. If it cost him \$875 for living expenses, how much money will he save in five years?
- 2. A grocer bought 6 cheeses, each weighing 75 pounds. How much did he pay for them, if they were worth 15 cents a pound?
- 3. Uncle Charlie gave each of his 15 nieces and 9 nephews a present on Christmas; if he paid \$2.75 for each, how much money did he spend?
- 4. A farmer who had 325 young chickens sold 268 of them to a city market-man; how many had he left, and how much money did he get for those he sold, if he charged 75 cents a pair?
- 5. If 4 oz. of tea cost 15 cents how much would 16 pounds cost?

- 6. How many yards of wire netting would be required to inclose a plot of ground & of a mile square, if there are 5280 feet in a mile?
- 7. A man who has 256 gallons of cider wishes to put it into barrels holding 32 gallons each; how many barrels will he need?
- 8. A grocer bought some cranberries, paying 12 cents a quart; for how much must he sell a peck to make 18 cents?
- 9. John bought 9½ pounds of beef, worth 18 cents a pound; how much change should he receive, if he gave a 5-dollar bill in payment?
- 10. Henry earns \$60 a month and spends \$ of it, putting the rest in the bank; how much would he save in 15 months at that rate?
- 11. A stock farmer had 63 cows; † of them died, and he sold the rest for \$35 each. How much money did he receive?
- 12. Mary bought a gallon of molasses worth 10 cents a quart, and 2 gallons of vinegar worth 5 cents a pint; how much money did she spend?
- 13. A milkman sold 8164 gallons of milk for 8 cents a quart; how much money did he receive?

- 14. If ½ pound of butter cost 16 cents, how much should a grocer pay for a dozen tubs, each weighing 65 pounds?
- 15. Mr. Powers sells his turnips and potatoes for 24 cents a peck. He sold 3 pecks of turnips and 3 bushels of potatoes; how much money should he receive?
- 16. If a man can saw a cord of wood in 8 hours, how many cords can he saw in 4 weeks, if he works 6 hours each day?
- 17. A shoemaker sold 3874 slippers for 96 cents a pair. How much money did he get for them?
- 18. Freddie had seven 25-cent pieces, and gave his sister $\frac{1}{2}$ of his money; how many bananas worth 4 cents each, could he buy with what was left?
- 19. A lady had \$375, and spent \$ of her money for a sealskin cloak, and the remainder for a shawl; what did each cost?
- 20. If 8 pounds of sugar cost 72 cents, what would a grocer pay for 2718 pounds?
- 21. If a bushel of apples cost \(\frac{1}{2}\) of a dollar, what would 875 bushels cost?
- 22. How much sugar at 9 cents a pound must be given for 144 eggs worth 36 cents a dozen?

- 23. If a boy can travel 72 miles in 8 days, how many miles could he travel in 35 days?
- 24. How many gallons of molasses worth 10 cents a quart can you buy for \$1.20?
- 25. If Tom pays 42 cents for 7 lead-pencils, how much ought William to pay for 8 dozens of the same kind?
- 26. Our cow is tied to a stake with a rope 54 feet long; how much farther can she reach from her stake than a neighbor's cow that is tied with a rope 16% yards long?
- 27. If cloth is worth $\frac{2}{3}$ of a dollar a yard, how much would I have left from a 10-dollar bill, after paying for 20 yards?
- 28. At 8 cents a dozen, how much would it cost to buy hooks enough for 16 closets, allowing 30 hooks for each?
- 29. If an ounce of chocolate is used at lunch every day, how long would 25 pounds last?
- 30. If the wheels of a wagon turn 480 times in going a mile, how many times would they turn in going § of a mile?
- 31. A gentleman sold peas out of his garden for 80 cents a peck; if he sold 296 quarts, how much money did he receive?

- 32. What should a ton of coal cost, if $\frac{2}{3}$ of a ton can be bought for $\frac{4}{3}$ 6?
- 33. Agnes went to the store and bought 9 pounds of sugar for 72 cents, which she had charged to her account. The next week she bought i as many pounds at the same rate, and paid all that she owed; how much was her bill?
- 34. At 16 cents a gallon, how much would 13 gallons and 3 pints of oil cost?
- 35. If 3 pounds of coffee cost 90 cents, how much could you buy for \$3.45?
- 36. How much should I pay for 15 pounds of butter, at the rate of 8 ounces for 17½ cents?
- 37. How many inches in a wire 72 yards long?
- 38. A grocer bought 22 quarts of chestnuts from one boy, and 14 pecks from another. He sold all but 7 quarts for 15 cents a quart; how much money did he receive?
- 39. Out of a jug containing 1% gallons of cider, a family used 2 quarts for dinner; how many quarts of cider were left in the jug?
- 40. A gentleman left home with \$450, intending to buy a team of horses. § of his money was in his pocket-book, which he lost,

and the rest was in his pockets. \$70 added to the money he had left would have bought the horses. What was the price asked?

- 41. A fruit-dealer had 3½ dozen pineapples in his store, and bought 75 more. He received \$15.60 for ¾ of all he had; how much was that for each?
- 42. Two little girls were very anxious to help a poor woman, so they made 15 pounds of candy and sold it all to their friends for 4 cents an ounce; how much money did they make?
- 43. If $\frac{3}{4}$ of a pound of tea cost 72 cents, what would 1 pound cost?
- 44. A gentleman paid \$1000 for 3 horses. The first cost \$350, the second † as much; how much did he pay for the third?
- 45. Mr. Blake had his life insured in one company for \$2750, and in another for \$7250; for how much more was he insured in one company than the other?
- 46. Dick had 84 marbles, but Harry won ‡ of them. Charlie has 30 times as many marbles as Dick now has; how many marbles have Charlie and Dick?
- 47. Mr. Newman sold his horse for \$360, and made † of that amount; how much did he pay for the horse when he bought it?

- 48. Mr. Adams sold 12 bushels of pears, 18 bushels of apples, and 46 more bushels of potatoes than pears and apples together; how much money did he receive, if he charged 75 cents a bushel?
- 49. Mr. Connors has in his milk-wagon 14 cans, each containing 10 gallons of milk; how much money will he receive, if he sells his milk for 9 cents a quart?
 - 50. How many pounds of coal in a of a ton?
- 51. If a family use ‡ of a pound of butter at a meal, how many pounds would they eat in 10 weeks, if they have 3 meals a day?
- 52. What would be the cost of a cheese weighing 14 pounds and 5 ounces, at 16 cents a pound?
- 53. Emily bought 3 pounds and 7 ounces of candy for \$1.65; what did she pay an ounce?
- 54. What should you pay for 18 pecks and 3 quarts of onions, at 48 cents a peck?
- 55. How many barrels of potatoes, at \$2½ a barrel, would it take to pay for 840 eggs, at 25 cents a dozen?
- 56. A man who kept a dairy had 765 pounds of butter which he wished to pack in tubs. He

had only 12 tubs, each holding 45 pounds; how many more does he need?

- 57. Mrs. Burns bought a piece of wire containing 18% yards, and after hanging her pictures had 7 feet left; how many feet did she use?
- 58. A man worked 112 days, and was paid at the rate of \$15 a week; how much money did he earn?
- 59. What must I pay for \(\frac{2}{3}\) of a bushel of apples, at 10 cents a quart?
- 60. How many yards of carpet would I need to cover a flight of stairs having 18 steps, if each step requires 1½ feet?
- 61. A man bought a farm for \$20,502. He sold it for \{\frac{1}{2}\$ of what he paid for it; how much did he lose?
- 62. John sold 5 dozen fresh eggs for \$1.25 to a grocer, who sold them to his customers for 3 cents apiece; how much did he make?
- 63. Some ladies went into a confectioner's and bought 168 ounces of candy; if each paid for 1½ pounds, how many ladies were there?
- 64. If a horse eats 8 quarts of oats a day, how many days would 10 bushels last him?
- 65. There are 20 apple-trees in an orchard, and from each, 3 barrels were filled, which the

owner sold to a grocer for \$2 each, taking his pay in groceries. If he ordered \$30 worth every month, how long would it take to pay the debt?

- 66. If a train goes 45 miles in one hour, how many miles does it go in 31 days?
- 67. At \$45 a head, how many cows could I buy for \$1035?
- 68. A man paid \$18.00 for 2 hundredweight of sugar; for how much must he sell a pound to gain 2 cents?
- 69. A man owning $\frac{1}{2}$ of a ship sold $\frac{1}{2}$ of his share for \$10,000; what was the value of the ship?
- 70. A city trading merchant loaded a ship with oil for Japan. If the oil was put in cans holding 10 gallons each, and it took 48,000 cans to fill the vessel, how many gallons of oil did he ship?
- 71. If the merchant paid 8½ cents a gallon for his oil, and it cost him 24 cents a can to ship it, what did each can cost him?
- 72. What was the expense of shipping this oil, if he paid 24 cents freight on each can?
- 73. What was the cost of the whole cargo when it reached Japan?

- 74. How much did the merchant in Japan receive for the oil, if he sold it all for 15 cents a gallon?
- 75. Mr. William M. Peck bought of Acker, Merrill & Co. 10 pounds of tea at 75 cents a pound, 75 pounds of granulated sugar at 8 cents a pound, 15 pounds of Java coffee at 35 cents a pound, 6 gallons of New Orleans molasses at 60 cents a gallon, 2 barrels of flour at \$7 a barrel, and 5 boxes of Babbitt's soap at \$6.50 a box; what was the amount of his bill?
- 76. Our new schoolhouse is 2 stories high, and each story has 12 windows. If there are 4 places for glass in each sash, how many panes of glass were needed for all of the windows?
- 77. Every morning and afternoon Miss Godley gives her pupils a dollar from the school bank; but when they are late she takes away a dollar, and if disorderly, 25 cents. The first 6 weeks of school, Dal*on lost 25 cents 3 times each week, and was late 10 times. The next 5 weeks he lost nothing; how much money did he have then?
- 78. When 2 peaches are sold for a cent, how many could I buy with $\frac{2}{5}$ of my money. if I have only 12½ dimes in my pocket-book?

New York, May 1, 1887.

Mr. Vim. H. Devins

Bought of Thurber, WAYLAND, & Co.

12	lbs. Rice,	\$.08		96		
6	" Raisins,	.20	1	20		
6	" Currants,	.0 8		48		Ì
1	Cheese, 30 lbs.,	.081/2	2	55		l
25	lbs. Coffee,	.25	6	25	'	1
3	bottles Olive Oil,	.75	2	25		1
6	lbs. Chocolate,	.35	2	10	1	1
4	boxes Mustard,	.25	1	00		1
<i>150</i>	lbs. Granulated Sugar,	<i>Л6</i> ½	9	75		
1	doz. Gelatine,	15	1	80		
1%	doz. Borax,	.1 8	3	24		Ì
10	lbs. Crackers,	.10	1	00	32	58

Received Payment,

Thuber, Wayland, & Co.

TABLES.

	MULTIPLICATION AS DEVELOPED.									
$2\times 1=2$	6× 2=12 3× 4=12 2× 7=14 3× 5=15 8× 2=16 4× 4=16	4× 5=20 7× 3=21 2×11=22 2× 2=24 4× 6=24 5× 5=25 3× 9=27 4× 7=28 6× 5=30 0× 3=30 4× 8=32 3×11=33	7x 5=35 6x 6=36 9x 4=36 3x12=36 8x 5=40 4x10=40 6x 7=42 4x11=44 9x 5=45 6x 8=48 4x12=48 7x 7=49 5x10=50	6× 9-54 5×11-55 7× 8-56 6×10-60 5×12-60 7× 9-63 8× 8-64 6×11-66 7×10-70 9× 8-72 6×12-72 7×11-77 8×10-80	9x 9= 81 7x12= 84 8x11= 88 9x10= 90 8x12= 96 9x11= 99 10x10=100 9x12=108 10x11=110 12x10=120 11x11=121 11x12=132 12x12=144					
		United St.	ATES MONE	Y.						
10 10	Cents (cts.) Dimes	make	e 1 Dime . 1 Dollar	• • • • • •	d. 8.					
		Liquid	MEASURE.							
2	Gills (gi.) Pints Quarts	•	e 1 Pint 1 Quart.		, qt.					
		Long 1	I EASURE.							
12 3	Inches (in.) Feet				ft. yd.					
		Dry M	EASURE.							
8	Pints (pts.) Quarts Pecks	make "	1 Peck .	• • • • • •						
		Avoirdure	ois Weight	r.						
100	Ounces (oz.) Pounds Hundredwei	**	Pound Hundre Ton	dweight	lb. cwt. T.					
		Units	of Time.							
60 24 7	Seconds (sec.) Minutes Hours Days Days, or 12	66 68	1 Day 1 Week .	• • • • • •	min. hr. da. wk. yr.					

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
66	76 46	36 86	77	37 67	57 17	18 28	68 38	7 8 88	6 9 99
86 96	46 86	76	17 27	57	87	38	58	08	09
46	96	96	87	67	67	6 8	78	98	19
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(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	•	(20)
49	36	70	54	69	72	38	89 37	37	93 46
39 99	87 38	30 57	$\frac{12}{18}$	73 85	83 98	93 84	37 97	97 64	40 75
79	69	94	40	94	17	67	83	52	84
_	_	_	_	_	_	_	_		_
(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(2 t)	(30)
66	34	68	32	83	30	69	91	49	62
41 70	76 64	74 70	87 86	79 6 8	89 97	37 85	76 35	68 72	58 97
83	89	09	78	76	65	44	87	34	31
_	_	-	_	_	-	_	_	_	_
(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
94	47	78	17	46	85	74	18	20	70
94 36	47 19	78 90	17 65	46 58	85 94	74 91	18 45	20 67	70 95
94	47	78	17	46	85	74	18	20	70
94 36 75	47 19 84	78 90 35	17 65 98	46 58 91	85 94 37	74 91 38	18 45 93	20 67 34	70 95 97
94 36 75	47 19 84 36	78 90 35	17 65 98	46 58 91	85 94 37	74 91 38	18 45 93 82 — (48)	20 67 34	70 95 97
94 36 75 83 — (41)	47 19 84 36 — (42) 39	78 90 35 84 — (43) 76	17 65 98 73 — (44) 16	46 58 91 37 — (45) 76	85 94 37 69 — (46) 93	74 91 38 46 — (47) 49	18 45 93 82 — (48) 57	20 67 34 98 — (49) 84	70 95 97 36 — (50) 76
94 36 75 83 — (41) 37 94	47 19 84 36 — (42) 39 82	78 90 35 84 — (43) 76 39	17 65 98 73 — (44) 16 90	46 58 91 37 — (45) 76 84	85 94 37 69 — (46) 93 87	74 91 38 46 — (47) 49 78	18 45 93 82 — (48) 57 83	20 67 34 98 — (49) 84 95	70 95 97 36 — (50) 76 45
94 36 75 83 — (41) 37 94 45	47 19 84 36 — (42) 39	78 90 35 84 — (43) 76	17 65 98 73 — (44) 16	46 58 91 37 — (45) 76	85 94 37 69 — (46) 93	74 91 38 46 — (47) 49	18 45 93 82 — (48) 57	20 67 34 98 — (49) 84	70 95 97 36 — (50) 76
94 36 75 83 — (41) 37 94	47 19 84 36 — (42) 39 82 16	78 90 35 84 — (43) 76 39 28	17 65 98 73 — (44) 16 90 78	46 58 91 37 - (45) 76 84 37	85 94 37 69 — (46) 93 87 64	74 91 38 46 — (47) 49 78 36	18 45 93 82 — (48) 57 83 99	20 67 34 98 — (49) 84 95 83	70 95 97 36 — (50) 76 45 99
94 36 75 83 - (41) 37 94 45 87	47 19 84 36 — (42) 39 82 16	78 90 35 84 — (43) 76 39 28	17 65 98 73 — (44) 16 90 78	46 58 91 37 - (45) 76 84 37	85 94 37 69 — (46) 93 87 64	74 91 38 46 - (47) 49 78 36 98 - (57)	18 45 93 82 (48) 57 83 99 76 (58)	20 67 34 98 - (49) 84 95 83 94 - (59)	70 95 97 36 — (50) 76 45 99 87 — (80)
94 36 75 83 (41) 37 94 45 87 (51)	47 19 84 36 — (42) 39 82 16 95 — (52) 93	78 90 35 84 — (43) 76 39 28 47 (53) 37	17 65 98 73 - (44) 16 90 78 94 - (54) 45	46 58 91 37 (45) 76 84 37 49 (55)	85 94 37 69 (46) 93 87 64 58 (56) 98	74 91 38 46 - (47) 49 78 36 98 - (57) 65	18 45 93 82 — (48) 57 83 99 76 — (58)	20 67 34 98 98 (49) 84 95 83 94 (59) 37	70 95 97 36 — (50) 76 45 99 87 — (80) 37
94 36 75 83 - (41) 37 94 45 87 - (51) 79 67	47 19 84 36 — (42) 39 82 16 95 — (52) 93 88	78 90 35 84 — (43) 76 39 28 47 — (53) 37 97	17 65 98 73 — (44) 16 90 78 94 — (54) 45 87	46 58 91 37 (45) 76 84 37 49 (55) 41 73	85 94 37 69 (46) 93 87 64 58 (56) 98 67	74 91 38 46 — (47) 49 78 36 98 — (57) 65 97	18 45 93 82 — (48) 57 83 99 76 — (58) 69 98	20 67 34 98 - (49) 84 95 83 94 - (59) 37 89	70 95 97 36 — (50) 76 45 99 87 — (60) 37 83
94 36 75 83 (41) 37 94 45 87 (51)	47 19 84 36 — (42) 39 82 16 95 — (52) 93	78 90 35 84 — (43) 76 39 28 47 (53) 37	17 65 98 73 - (44) 16 90 78 94 - (54) 45	46 58 91 37 (45) 76 84 37 49 (55)	85 94 37 69 (46) 93 87 64 58 (56) 98	74 91 38 46 - (47) 49 78 36 98 - (57) 65	18 45 93 82 — (48) 57 83 99 76 — (58)	20 67 34 98 98 (49) 84 95 83 94 (59) 37	70 95 97 36 — (50) 76 45 99 87 — (80) 37

ADDITION.

(1)	(2)	(8)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
146	156	157	187	273	246	286	246	193	86 2
186	178	168	107	286	174	237	872	381	621
174	137	193	186	207	193	184	372	641 197	960 637
145	182	107	$\frac{212}{}$	271	198	315	642	197	037
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
872	2 68	241	278	637	713	880	437	315	172
201	108	237	396	621	904	649	609	241	296
193	178	437	347	386	617	683	241	862	872
174	197	607	703	687	391	637	278	314	<u>197</u>
(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
24 0	268	031	291	307	268	641	807	906	873
268	108	609	283	369	172	681	701	940	693
291	178	437	262	406	102	471	907	396	738
<u>270</u>	197	708	278	<u>589</u>	<u>286</u>	138	<u>583</u>	<u>378</u>	369
(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
738	031	862	192	141	893	637	839	703	862
710	960	291	262	318	476	649	717	830	171
637	262	382	240	756	984	687	386	367	736
719	<u>283</u>	270	$\frac{172}{}$	954	317	683	612	<u>507</u>	985
(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)
191	437	734	607	734	804	540	812	890	319
382	960	817	960	812	741	319	138	127	817
874	893	925	710	652	397	752	416	185	658
213	621	813	637	386	618	$\frac{124}{}$	534	764	294
(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
834	176	397	927	854	986	982	846	839	9 87
916	839	817	384	987	716	783	391	467	864
712	274	925	916	319	439	945	827	984	391
832	619	346	975	826	846	827	617	317	587

(1)	(3)	(8)	(4)	(5)	(6)	(7)	(8)	(9)	(jo)
734	315	916	537	946	534	91 8	784	617	435
609	675	346	612	713	617	316	308	814	617
711 880	316 513	784 391	705 307	587 612	706 380	784 912	912 876	930 817	812 936
690	984	684	513	348	720	396	391	612	812
. —				-		-			
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
734	712	834	432	712	432	315	730	412	907
816	819	765	912	127	187	841	815	982	385
783	362	817	674	384	534	607	946	734	691
708	912	920	308	607	816	315	305	127	476
$\frac{317}{}$	804	315	436	184	540	908	872	316	539
(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
940	406	89 3	612	365	435	365	145	890	312
317	301	534	983	834	937	892	190	760	187
$\begin{array}{c} 812 \\ 672 \end{array}$	908 706	671 812	416 935	981 316	652 936	976 834	467 384	380 120	916 784
908	304	932	812	763	824	617	690	740	315
						===			
(81)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(89)	(40)
		` '					•		
716 834	619 817	813 451	984 817	196 763	519 827	560 73 5	576 812	392 784	312 445
580	963	360	342	187	315	416	904	675	832
927	817	784	594	984	560	312	635	468	916
382	726	392	813	376	891	980	876	319	804
(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)
475	845	712	721	927	716	762	735	703	550
368	736	842	834	308	384	187	846	817	896
940	819	671	673	916	979	395	534	397	784
720 916	706 913	384 916	81 2 460	732 920	865 394	812 916	875 1 97	80 4 197	391 807
910	919	910	400	920	394	910	101	191	007

(1)	(2)	(8)	(4)	(5)	(6)	(7)
3894	3642	3 8 09	5763	9768	8654	\$694
5637	9736	8715	1214	3654	3625	8076
6718	8406	9648	1846	9736	7683	3452
9364	<u>5940</u>	3164	7382	2047	9208	<u>4736</u>
(8)	(9)	(10)	(11)	(12)	(13)	(14)
5870	9384	9786	8305	9467	6583	. 7621
6050	4735	9340	8067	3062	1287	3627
3587	8265	3786	3946	8346	6439	1640
6241	2314	9267	8593	7102	8761	3987
(15)	(16)	(17)	(18)	(19)	(20)	(21)
4163	7346	7692	3948	3046	4760	7312
4317	7438	3847	9673	7081	3812	1876
6287	8231	6983	8046	3584	1987	9312
2312	8496	94 16	9580	7691	3164	8249
(22)	(23)	(24)	` (25)	(26)	(27)	(28)
9843	4813	3614	7563	76 4 5	9432	4675
1462	1980	7628	9073	3976	1875	3817
7394 1876	7684 1935	398 7 1294	1087 3684	8463 2975	9314 8429	8278 914 6
10/0	1930	1204	3004	2010	0420	9140
(29)	(30)	(31)	(32)	(33)	(34)	(35)
4167	7698	8394	2765	8762	2764	1973
853 4	3467	8752	1395	1834	3582	2 876
1925	8599	1487	5761	8745	2187	3596
8231	4376	1839	1399	7391	1892	1283
(36)	(87)	(38)	(39)	(40)	(41)	(42)
6308	3964	8463	8764	8965	8469	7649
5340	8765	9875	3092	3762	1778	82 19
7682	3825	3 8 4 6	9087	9876	9635	9876
934 6	9182	8059	3854	9035	9859	37 16

(1)	(2)	(3)	(4)	(5)	(6)	(7)
8764	7896	7946	9467	4895	9586	6987
9387 6978	8798 8976	8768 7796	8976 9668	7869 9678	9978 8465	5776 8995
7986	9684	6889	8679	9863	8987	9687
(8)	(9)	(10)	(11)	(12)	(13)	(14)
8467	9463	8467	5843	9988	7984	8497
5835	2784	9886	9785	7694	9476	9835
9467 7695	9983 7 695	7968 9864	9876 8667	6785 7869	8786 9567	8462 9738
1090	7090			7009	9001	9730
(15)	(16)	(17)	(18)	(19)	(20)	(21)
8467	7698	6597	9865	5897	5847	7495
7986	9787	8795	9756	8679	9685	8769
8697 7968	6895 9876	5896 7897	6784 9675	9836 6976	7869 9758	7584 7391
7900	9070	1001	9070	0970	9700	1381
(22)	(23)	(24)	(25)	(26)	(27)	(28)
5987	7896	5987	8679	7893	8397	4987
6954	9758	8462	8785	4469	7984	9678
8936	9486	4875	9664	9887 6579	4867	6779 8559
4695	7595	5896	7986	0079	9646	8009
(29)	(30)	(31)	(32)	(33)	(34),	(35)
9584	7694	7654	9876	7889	9768	7965
6793	3987	8975	6897	9768	8796	4876
9837 8 669	6875 9986	3786 4597	7689 8796	6679 8978	6789 8798	6978 8986
~	9900	4097	0190	0970	0190	0900
(36)	(37)	(38)	(39)	(40)	(41)	(42)
6594	794 6	7984	8976	9984	4985	9765
4786	8495	8795	6985	4976	9546	8976
8947	8765	7896	9784	8974	7384	9785
6794	<u>5937</u>	6587	4697	8958	8497	8678

(1)	(3)	(3)	(4)	(5)	(6)	(7)
8496	8695	9487	8946	8976	9784	8195
3 976 7834	47 85 39 87	3976 5087	7853 9789	6485 9634	7697 8439	8976 9736
9876	6599	9876	7684	6786	8976	9864
4937	7887	3987	4987	9578	9573	4785
_	******					
(8)	(9)	(10)	(11)	(12)	(13)	(14)
6 794	9763	4675	6437	9467	9486	98 34
8436	8346	8967	4594	8392	9735	8967
9478 694 7	9 763 9978	8765 934 6	7863 9785	8476 4965	86 74 9389	7834 4697
3865	6874	7685	6493	2738	7655	8594
(15)	(16)	(17)	(18)	(19)	(20)	(21)
9786	4784	9785	3987	6487	3964	1976
4095	5976	4693	9186	7936	4895	6595
9467 3859	4495 8596	3895 6578	7839 8695	8294 6325	8643 9174	8476 3987
7643	. 6783	3945	7839	6291	3682	456 9
		-				
(22)	(23)	(24)	(25)	(26)	(27)	(28)
8463	4987	7895	8294	9874	8794	9587
9768	6594	8265	7639	6795	8978	5976
4395 4679	3862 9187	5983 9678	2784 9586	4639 9876	649 3 978 9	3978 4697
3874	6439	4975	7795	4798	4634	8327
(29)	(30)	(31)	(32)	(33)	(34)	(35)
7965	5463	9463	8 463	7984	6597	9576
8437	7964	7809	7689	6795	3645	3976
2984 1976	9846 3976	8465 8327	7865 2796	386 5 9176	698 4 3976	4768 3942
8597	4876	9874	8765	2784	8 469	9467

ADDITION.

		WRITTEN	Exercises.		
(1)	(%)	. (3)	(4)	(5)	(6)
79636	86764	68943	72596	98346	89762
48769	39 895	97649	37846	75843	94836
93467	84673	75346	75834	97659	74956
75876	9876 4	98765	96783	36784	39895
84379	39674	63946	92765	49736	84673
(7)	(8)	(9)	(10)	(11)	(12)
39846	39846	64375	54639	97634	98346
73984	76954	87652	39468	73892	37984
65907	39806	94862	93846	8 4675	56397
86359	85974	39846	73984	39645	48645
46709	39806	83907	39765	92197	83974
(18)	(14)	(15)	(16)	(17)	(18)
64395	78469	65843	46597	99876	98465
86793	73487	97685	86734	893 46	98376
78948	67904	87398	87659	79834	84695
73974	39876	95432	87645	69876	89736
67893	94895	67859	99834	89378	87965
	(00)	(01)	(00)	(0á)	(04)
(19)	(20)	(21)	(22)	(23)	(24)
78439	49784	94639	65873	78394	98764
67846	38976	89784	769 4 5	89676	39587
39785 97675	99897 87654	95836 97643	86345 78659	49359	64384 76934
38796	39876	87645 87645	87649	86759 768 4 5	87695
•		•			
(25)	(26)	(27)	(28)	(29)	(30)
98432	86734	59835	97634	74912	97643

ADDITION.

(1)	(2)	(8)	(4)	(5)	(6)
98716	39725	35	20	97643	64753
340	3976	846	819	281	1320
9762	85	29	760	7680	56
27	970 4	35 849	8913	934	839
370	3 678 3	768 ·	590	61	78624
9806	9220	3917	64937	7635	9827
(7)	(8)	(9)	(10)	(11)	(12)
54	74	29876	74625	65	99
390	387	84391	9876	837	760
76	642	16	3974	12	38644
89734	99816	384	187	99763	9876
6950	3786	7560	36	78645	2 5960
8114	97314	128	8960	35812	3985
(13)	(14)	(15)	(16)	(17)	(18)
84395	97644	28947	25	17	95
876	9827	863	834	396	830
9834	308	4630	69781	87925	67924
67912	9620	927	3576	30	99836
25	840	64	89720	975	725
320	29	391	9684	8462	8416
(19)	(20)	(91)	(22)	(23)	(94)
` '	• •	(21)	` '	` '	(24)
37	67	8716 4	75843	34	34
984	819	93720	9112	815	970
85	340	987	960	99713	38916
95847	29	6220	75	9870	784
316	67984	319	391	310	63
9840	3416	8212	8716	9760	978
(25)	(26)	(27)	(28)	(29)	(30)
71	370	36	984	69783	84639
380	8416	816	43764	9270	703
74	987	99783	27	3840	9876
892	34	964	9i	972	39
39817	69720	8720	8	8463	804
964	8915	843	319	97	97380

(1)	(2)	(3)	(4)	(5)
\$ 958 4 .6 3	\$9738.80	\$4 876.06	\$8734.00	\$94 63.7 0
789.80	706.29	384.91	35.09	8716.35
91.00	370.43	9807.25	816.2 4	980.00
3907.08	91.78	7816.30	960.70	76.08
78.91	3 973.2 4	.25	99.84	319.75
805.74	876.50	9.00	308.50	9804.62
(6)	(7)	(8)	(9)	(10)
\$ 9537.50	\$6783.25	\$6874.00	\$9418.86	\$9775.84
7.19	8916.50	56.75	3.94	3927.84
35.80	3716.84	396.74	78.92	918.65
7.16	60.91	8926.91	387.65	84.19
907.84	718.30	8706.38	8917.8 7	320.12
6984.30	94.75	217.65	316.45	96.80
(11)	(12)	(13)	(14)	(15)
\$ 3727.8 4	\$ 8467.25	\$ 6935.86	\$ 6392.5 4	\$ 7392.30
93.90	908.70	917.09	607.83	9.17
846.74	309.75	3784.46	99.75	834.62
9836.91	9856.00	675.34	306.80	9716.40
617.82	397.08	9817.59	9716.21	875.39
9.34	94.82	850.34	800.00	27.34
(16)	(17)	(18)	(19)	(20)
\$ 6404.84	\$ 5329.69	\$8343.80	\$ 7927.65	\$4 316. 2 5
3.97	7.25	91.75	4160.84	9804.50
65. 90	94 .63	834.62	390.02	620.94
840.39	27.81	9820.75	917.81	8716.92
9716. 24	396.72	315.92	8640 .70	84.06
840.36	9804.90	64.80	35.87	920.81
(21)	(22)	(23)	(24)	(25)
\$8465.13	\$5275.92	\$3565.7 4	\$6342.00	\$6 187.24
917.84	840.65	816.29	840.12	319.78
67.00	9716.2 4	897.06	9876.30	3960.75
8912.08	730.28	64.37	917.84	9264.08
315.60	96.75	8924.34	67.13	7320.10
.70	8925.84	8906.05	12.10	987.25

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
784	835	697	635	416	840	927	813	587	916
927	983	384	926	925	3 62	86 5	926	316	587
364	724	946	718	834	872	943	845	984	314
739	. 584	879	943	695	916	826	317	772	263
846	937	347	816	874	347	984	642	317	784
594	824	859	927	329	612	963	894	824	925
376	935	837	384	837	184	842	376	735	342
895	476	691	675	294	395	725	83 4	567	562
768	785	724	8 42	176	827	837	978	439	763
345	946	346	927	216	641	786	392	824	825
976	394	725	384	395	329	384	824	561	927
849	764	639	815	462	762	219	617	3 92	34 6
749	375	824	324	184	197	34 8	782	184	927
346	943	936	675	376	4 65	672	392	876	4 16
987	562	223	2 87	297	927	314	930	372	934
							_		

(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
483	985	847	946	846	814	874	872	912	827
859	775	395	354	979	876	326	394	872	934
327	986	816	965	828	542	189	563	319	629
896	992	225	863	695	387	64 8	227	876	927
783	165	314	147	277	619	949	319	214	319
927	394	672	319	679	212	126	5 87	327	275
348	927	891	264	828	572	318	294	691	315
225	694	327	395	619	239	299	316	843	628
694	934	645	865	876	675	436	425	958	517
386	265	562	465	915	897	519	187	624	342
423	399	193	39 8	395	324	849	395	139	926
2 85	897	862	187	264	195	677	168	285	783
493	264	549	349	392	72 6	34 6	734	32 9	916
625	3 99	327	868	187	382	789	516	214	203
314	540	245	439	695	197	244	248	392	760

(1)	(%)	(3)	(4)	(5)
635 46	64315	54036	65256	60251
513 4 1	63010	40032	45220	40120
(6)	(7)	(8)	(9)	(10)
58704	98401	32041	7370 4	30497
47002	72301	21030	61501	20385
(11)	(12)	(13)	(14)	(15)
46035	67235	90862	63210	74201
34013	41204	70421	30210	63101
(16)	(17)	(18)	(19)	(20)
30956	74301	20147	72451	29604
20743	3 2100	10034	51320	18203
(21)	(22)	(23)	(24)	(25)
63510	35631	67102	61205	13740
21410	24320	53101	21003	12530
(96)	(27)	(28)	(29)	(30)
13671	98076	12908	39451	16405
12430	83032	10706	26310	12302
(31)	(32)	(33)	(34)	(35)
64273	74305	98 205	13294	13506
21042	31202	761 02	12062	1 2403

SUBTRACTION.

(1)	(3)	(3)	(4)	(5)
64530	76431	94505	61093	34 271
43212	23140	82312	50121	21360
			•	
(6)	(7)	(8)	(9)	(10)
61264	30242	74360	64315	74603
30205	21031	62251	32104	63212
(11)	(12)	(13)	(14)	(15)
21645	14560	87643	93216	35126
123 4 0	13232	70432	74015	24215
			*	
(16)	(17)	(18)	(19)	(20)
58960	67451	49301	26310	17639
35721	25232	27210	17010	12345
	•			
(21)	(22)	(23)	(24)	(25)
34559	92641	17540	73260	75164
23470	73401	16231	41232	43122
(26)	(27)	(28)	(29)	(30)
31421	90583	64893	13894	18260
2431 0	70381	54764	12737	12331
(31)	(32)	(33)	(34)	(35)
65310	38402	35920	17562	15820
45201	17231	21602	13634	12613

(1) 73501 42323	(2) 64503 13232	(3) 45203 34712	97304 82113	(5) 43728 22530
(6) 83450 71321	60357 31213	(8) 26457 13261	(9) 35743 22450	(10) 64591 32542
(11)	(12)	(13)	(14)	(15)
61035	39540	48693	69405	26541
34021	12632	21730	31613	15260
(16)	(17)	(18)	(19)	(20)
74531	94583	64500	34561	13560
23027	27304	35124	23071	12353
(21)	(22)	(23)	(24)	(25)
65103	73510	63512	15960	90031
52612	48321	32161	12342	62421
(26)	(27)	(28)	(29)	(30)
9350 7	64502	35671	65380	73401
37120	22314	28132	21432	23283
(31)	(32)	(38)	(34)	(35)
73542	28401	62005	14820	26731
62681	27063	31621	13761	17321

(1)	(2)	(8)	(4)	(5)
304685	540360	80310 4	213675	300468
271380	278495	607493	168493	200839
(6)	(7)	(8)	(9) ·	(10)
694788	721080	862135	999488	341111
490095	509307	478365	777863	264383
(11)	(12)	(18)	(14)	(15)
788 096	203107	560071	623172	43 6160
635 548	191683	486374	4 261 37 ·	329478
(16)	(17)	(18)	(19)	(20)
600400	183265	345170	756425	527 108
5956 72	108473	268395	368733	460327
(21)	(22)	(23)	(24)	(25)
170000	47 3789	520368	278160	660423
98605	3 68 999	493189	145192	554680
(26)	(27)	(28)	(29)	(30)
651008	2 71608	457163	690436	37 218 9
429360	139464	227849	470866	368492
(81)	(32)	(33)	(34)	(35)
864240	367580	536488	174260	610004
300708	279364	477989	136428	436089

(1)	(%)	(8)	(4)	(5)
130476	627100	721063	492703	702108
94626	347086	718477	445680	368475
(6)	ന	(8)	(9)	(10)
229034	861345	423610	809611	567425
135478	852267	318425	265478	538628
(11)	(12)	(13)	(14)	(15)
615331	834916	303085	922135	321613
525466	817640	224867	866045	221723
(16)	(17)	(18)	(19)	(20)
497000	421508	525189	406109	790645
300279	337409	465099	328186	236480
(21)	(23)	(23)	(24)	(25)
145486	379195	460135	237560	197008
137829	120809	285476	180492	108420
(96)	(27)	(28)	(29)	(30)
636754	161399	821308	792164	217118
529477	147963	811468	685326	208425
(31)	(32)	(88)	(34)	(35)
521358	146392	591456	625185	425190
468275	118266	483278	417392	3363 85

MULTIPLICATION.

1.	Multiply	43,284	bу	2,	bу	3,	bу	.4,	b y	5,	ьу	6.
2.	Multiply	27,369	bу	3,	bу	4,	bу	5,	by	6,	by	7.
3.	Multiply	18,476	bу	4,	b y	5,	b y	6,	bу	7,	by	8.
4.	Multiply	35,760	bу	5,	b y	6,	bу	7,	by	8,	bу	9.
.5.	Multiply	72,324	b y	6,	b y	7,	by	8,	by	9,	bу	2.
6.	Multiply	75,584	by	7,	by	8,	by	9,	by	2,	by	3.
7.	Multiply	96,932	b y	8,	by	9,	by	2,	by	3,	b y	4.
8.	Multi pl y	98,145	bу	9,	by	2,	by	3,	by	4,	bу	5.
9.	Multiply	37,253	ь'n	6,	bу	5,	by	4,	by	3,	bу	2.
10.	Multiply	67,924	by	7,	by	6,	by	5,	by	4,	by	3.
.11.	Multiply	83,372	by	8,	b y	7,	b y	6,	b y	· 5,	by	4.
12.	M ultipl y	92,246	by	9,	by	8,	bу	7,	bу	6,	by	5.
.13.	Multiply	64,783	b y	2,	b y	9,	bу	8,	bу	7,	bу	6.
14.	Multiply	45,069	b y	3,	bу	4,	bу	5,	by	6,	bу	7.
15.	$\mathbf{Multiply}$	89,764	by	4,	by	5,	by	6,	by	7,	by	8.
16.	$\mathbf{Multiply}$	40,816	by	9,	by	8,	by	7,	by	10,	by	11.
17.	$\mathbf{Multiply}$	46,978	bу	10,	by	11,	b y	12,	by	9,	by	8.
18.	$\boldsymbol{Multiply}$	97,840	bу	13,	by	14,	by	15,	by	16,	by	17.
19.	$\mathbf{Multiply}$	87,919	by	18,	bу	19,	bу	20,	by	21,	by	22.
20.	$\mathbf{Multiply}$	74,824	bу	23,	bу	24,	bу	25,	b y	26,	bу	27.
21 .	$\mathbf{Multiply}$	49,320	b y	28,	bу	29,	by	30,	by	31,	by	32 .
22.	$\mathbf{Multiply}$	94,309	b y	33,	by	34,	by	35,	b y	36,	by	37.
:23 .	$\mathbf{Multiply}$	84,367	bу	67,	bу	84,	by	95,	by	36,	by	25.
24.	Multiply	90,207	bу	98,	bу	67,	рλ	55,	bу	84,	bу	70.

MULTIPLICATION.

1.	Multiply	30,464	b y	31,	bу	48,	b y	27,	bу	56,	b y	90.
2.	Multiply	18,273	bу	16,	bу	24,	· by	35,	bу	64,	b y	75 .
3.	Multiply	21,475	b y	20,	bу	36,	bу	41,	bу	5 8,	b y	97.
4.	Multiply	15,767	bу	34,	by	15,	bу	26,	bу	70,	bу	84.
5.	Multiply	36,475	b y	84,	bу	26,	b y	40,	bу	39,	b y	75.
6.	Multiply	68,397	by	35,	by	61,	by	74,	by	92,	b y	80.
7.	$\mathbf{Multiply}$	14,780	by	50,	b y	74,	b y	53,	b y	69,	bу	3 8.
8.	$\mathbf{Multiply}$	76,408	by	31,	bу	68,	by	24,	b y	70,	b y	59 .
9.	Multiply	95,847	b y	40,	b y	25,	bу	73,	bу	69,	by	87.
10.	Multiply	50,960	bу	27,	bу	36,	b y	80,	bу	54,	by	19.
11.	Multiply	20,836	bу	52,	b y	97,	b y	35,	bу	46,	bу	70.
12.	$\mathbf{Multiply}$	41,609	bу	39,	by	74,	bу	82,	bу	15,	bу	68.
13.	$\mathbf{Multiply}$	80,507	bу	37,	bу	57,	bу	49,	bу	28,	bу	90.
14.	M ultipl y	68,429	bу	25,	b y	46,	bу	38,	bу	69,	bу	37.
1 5.	Multiply	43,967	b y	60,	by	38,	bу	27,	bу	94,	by	58.
16.	$\mathbf{Multiply}$	93,758	bу	3 6,	bу	59,	by	64,	by	28,	by	37.
17.	$\mathbf{Multiply}$	27,463	bу	75,	bу	63,	bу	58,	by	64,	bу	29.
18.	Multiply	56,389	bу	56,	bу	70,	bу	83,	bу	95,	bу	64 .
19.	$\mathbf{Multiply}$	49,207	bу	84,	b y	39,	bу	75,	bу	80,	bу	96.
20 .	Multiply	75,870	by	68,	by	90,	bу	86,	by	75,	bу	49 .
21 .	$\mathbf{Multiply}$	90,867	by	75,	bу	67,	bу	58,	bу	92,	bу	34.
22 .	Multiply	85,769	bу	58,	bу	76,	bу	37,	bу	49,	bу	82 .
23 .	Multiply	69,748	bу	42,	bу	83,	bу	69,	bу	58,	bу	70.
24.	Multiply	58,470	bу	16 ,	bу	37,	bу	28,	bу	95,	bу	46.

MULTIPLICATION.

- 1. Multiply 147,306 by 127, by 603, by 480, by 519.
- 2. Multiply 253,180 by 364, by 275, by 193, by 608.
- 3. Multiply 740,869 by 570, by 863, by 374, by 259.
- 4. Multiply 471,628 by 215, by 438, by 571, by 960.
- 5. Multiply 625,379 by 468, by 357, by 609, by 271.
- 6. Multiply 357,468 by 608, by 900, by 395, by 427.
- 7. Multiply 480,597 by 753, by 642, by 860, by 975.
- 8. Multiply 527,369 by 402, by 684, by 369, by 537.
- 9. Multiply 869,007 by 246, by 309, by 468, by 879.
- 10. Multiply 486,759 by 579, by 648, by 357, by 690.
- 11. Multiply 794,068 by 460, by 325, by 795, by 718.
- 12. Multiply 525,787 by 725, by 863, by 947, by 406.
- 13. Multiply 861,029 by 346, by 728, by 385, by 950.
- 14. Multiply 474,636 by 823, by 694, by 570, by 725.
- 15. Multiply 316,428 by 257, by 385, by 408, by 573.
- 16. Multiply 259,007 by 164, by 257, by 364, by 452.
- 17. Multiply 630,975 by 451, by 362, by 728, by 390.
- 18. Multiply 175,698 by 263, by 485, by 296, by 736.
- 19. Multiply 753,684 by 527, by 360, by 485, by 947.
- 20. Multiply 507,369 by 473, by 136, by 392, by 583.21. Multiply 425,708 by 361, by 284, by 536, by 428.
- 22. Multiply 709,360 by 703, by 800, by 284, by 639.
- 22. Multiply 109,300 by 103, by 800, by 284, by 639.
- 23. Multiply 526,079 by 362, by 763, by 825, by 947.
 24. Multiply 607,408 by 549, by 372, by 729, by 396.

DIVISION.

```
1. Divide 48,284 by 2, by 4, by 5, by 8, by 6.
2. Divide 77,859 by 3, by 5, by
                                  7, by 4, by
                                                8.
3. Divide 90,845 by
                    5, by 8, by
                                  6. by 7, by 4.
4. Divide 64,272 by
                   7, by 4, by
                                  9. by 6. by 5.
5. Divide 84,987 by 4, by 8, by 6, by 7, by 9.
6. Divide 97,672 by
                   6, by
                           3, by
                                  2. by 9. by 8.
7. Divide 36,819 by
                   9, by 7, by 6, by 8, by 5.
8. Divide 75,682 by 4, by 9, by 8, by 5, by 3.
9. Divide 83,790 by 5, by 6, by 9, by 3, by 7.
10. Divide 84,032 by 7, by 4, by
                                  3, by 9, by 8.
11. Divide 96,780 by
                   6, by 5, by 2, by 7, by 8.
12. Divide 24,168 by 8, by 6, by 4, by 9, by 7.
13. Divide 97,486 by 9, by 8, by 7, by 5, by 6.
14. Divide 27,054 by 4, by 6, by
                                  9. by 8. by 7.
15. Divide 39,460 by 9, by 10, by 11, by 12, by 8.
16. Divide 64,285 by 11, by 12, by 10, by 9, by 7.
17. Divide 40,376 by 18, by 19, by 20, by 21, by 22.
18. Divide 89,465 by 23, by 24, by 25, by 26, by 27.
19. Divide 97,304 by 28, by 29, by 30, by 31, by 32.
20. Divide 69,784 by 33, by 34, by 35, by 36, by 37.
21. Divide 87,604 by 44, by 53, by 62, by 71, by 85.
22. Divide 78,763 by 55, by 61, by 73, by 48, by 92.
23. Divide 92,184 by 22, by 83, by 49, by 56, by 78.
24. Divide 47,920 by 48, by 57, by 63, by 72, by 88.
```

DIVISION.

WRITTEN EXERCISES.

1. Divide 146,127 by 35, by 57, by 68, by 24, by 19. 2. Divide 257,468 by 21, by 36, by 17, by 53, by 80. 3. Divide 625,397 by 43, by 29, by 35, by 64, by 78. 4. Divide 309,460 by 75, by 58, by 24, by 36, by 97. 5. Divide 971,088 by 48, by 70, by 53, by 92, by 61. 6. Divide 567,345 by 25, by 46, by 75, by 83, by 90. 7. Divide 473,007 by 63, by 82, by 67, by 59, by 46. 8. Divide 865,420 by 29, by 18, by 49, by 63, by 75. 9. Divide 318,509 by 31, by 62, by 93, by 56, by 87. 10. Divide 706,428 by 17, by 34, by 52, by 68, by 59. 11. Divide 967,309 by 26, by 50, by 96, by 75, by 38. 12. Divide 630,408 by 53, by 19, by 70, by 84, by 67. 13. Divide 809,260 by 39, by 78, by 59, by 36, by 74. 14. Divide 410,687 by 14, by 28, by 43, by 79, by 56. 15. Divide 746,385 by 37, by 91, by 74, by 68, by 95. 16. Divide 568,297 by 29, by 58, by 48, by 37, by 68. 17. Divide 690,748 by 86, by 47, by 95, by 23, by 34, 18. Divide 888,466 by 41, by 68, by 73, by 97, by 52. 19. Divide 493,705 by 24, by 35, by 45, by 68, by 79. 20. Divide 179,386 by 78, by 96, by 37, by 42, by 35. 21. Divide 350,179 by 52, by 73, by 69, by 85, by 41. 22. Divide 728,463 by 71, by 85, by 54, by 87, by 69. 23. Divide 659,320 by 42, by 93, by 76, by 94, by 85.

24. Divide 926,087 by 90, by 48, by 58, by 72, by 63.

DIVISION.

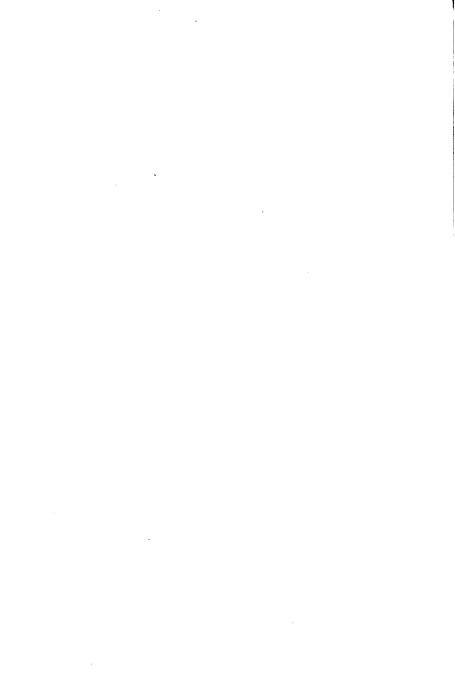
```
1. Divide 1,709,366 by 203, by 327, by 586, by 490.
2. Divide 3,695,408 by 237, by 186, by 904, by 510.
3. Divide 5,409,673 by 540, by 273, by 368, by 495.
4. Divide 2,795,364 by 342, by 637, by 459, by 138.
5. Divide 4,368,579 by 421, by 506, by 275, by 389.
6. Divide 6,184,795 by 617, by 450, by 138, by 902.
7. Divide 7,306,485 by 723, by 364, by 692, by 258.
8. Divide 5,273,698 by 175, by 268, by 354, by 690.
9. Divide 4,781,539 by 899, by 728, by 566, by 178.
10. Divide 3,367,486 by 645, by 572, by 438, by 396.
11. Divide 6,800,790 by 463, by 169, by 217, by 580.
12. Divide 1,967,246 by 358, by 721, by 549, by 647.
13. Divide 4,508,377 by 420, by 607, by 935, by 810.
14. Divide 2,486,759 by 186, by 345, by 728, by 309.
15. Divide 3,591,674 by 257, by 491, by 630, by 800.
16. Divide 8,007,963 by 728, by 856, by 493, by 157.
17. Divide 7,654,392 by 507, by 630, by 289, by 416.
18. Divide 5,471,366 by 625, by 379, by 148, by 275.
19. Divide 3,927,548 by 274, by 156, by 374, by 681.
20. Divide 9,705,406 by 153, by 672, by 498, by 533.
21. Divide 6,179,358 by 369, by 745, by 820, by 165.
22. Divide 4,900,087 by 470, by 803, by 296, by 728.
23. Divide 8,271,694 by 206, by 376, by 485, by 917.
24. Divide 6,003,900 by 735 by 448 by 267, by 593.
```

FRACTIONS.

$\frac{1}{2}$ of $36 = $ what?	$\frac{1}{2}$ of $100 = \text{what}$?	$\frac{1}{2}$ of $279 - \text{what}?$
$\frac{1}{3}$ of 39 = "	$\frac{1}{8}$ of $102 = $ "	3 of 207 — "
₹ of 48 = "	₹ of 105 = "	f of 369 — "
$\frac{1}{4}$ of $52 =$ "	$\frac{1}{4}$ of $120 =$ "	§ of 306 — "
$\frac{3}{4}$ of $92 = $	$\frac{3}{4}$ of $128 = $ "	7 of 450 - "
$\frac{1}{8}$ of 90 = "	$\frac{1}{8}$ of $155 = $ "	§ of 405 — "
$\frac{2}{5}$ of $75 = $ "	$\frac{2}{6}$ of $175 = $ "	$\frac{1}{10}$ of 340 = "
§ of 95 = "	$\frac{8}{5}$ of $110 = $ "	$\frac{3}{10}$ of 230 = "
\$ of 60 = "	\$ of 165 = "	$\frac{7}{10}$ of $470 = $ "
of 72 = "	$\frac{1}{6}$ of $126 =$ "	$\frac{1}{11}$ of 583 = "
§ of 78 = "	$\frac{5}{6}$ of $180 - $ "	$\frac{4}{11}$ of $671 - $
$\frac{1}{7}$ of $77 = $	of 112 = "	4 of 682 - "
$\frac{3}{7}$ of $56 = $ "	₹ of 147 — "	$\frac{1}{12}$ of $744 - $
4 of 98 - "	§ of 133 = "	$\frac{8}{12}$ of $768 - $
ş of 91 — "	\$ of 126 = "	$\frac{7}{12}$ of $876 - $
ş of 84 — "	§ of 140 = "	$\frac{11}{12}$ of 888 - "
$\frac{1}{8}$ of 88 = "	‡ of 136 = "	$\frac{7}{15}$ of 900 = "
₹ of 96 — "	$\frac{3}{8}$ of $120 = $ "	$\frac{18}{18}$ of $945 = $
§ of 64 — "	§ of 176 = "	9 of 976 - "
1 of 72 - "	7 of 168 = "	15 of 992 - "

FRACTIONS.

$\frac{1}{2}$ of $\frac{1}{2}$ — what?	$\frac{2}{3}$ = what?	$\frac{1}{2} + \frac{1}{4} = \text{what?}$
$\frac{1}{8}$ of $\frac{1}{8}$ "	}- "	$\frac{1}{4} - \frac{1}{4} = $ "
$\frac{1}{4}$ of $\frac{1}{2}$ "	1- "	1 + 1 = "
$\frac{1}{3}$ of $\frac{1}{3}$ - "	1- " `	1-1="
$\frac{1}{3}$ of $\frac{1}{4}$ - "	1 - "	1 + 5 = "
1 of 1 - "	1 - "	4-1="
$\frac{1}{2} \text{ of } \frac{1}{6} = \text{ "}$	} - "	å+ <u>1</u> − "
$\frac{1}{8}$ of $\frac{1}{8}$ - "	{ - "	<u>₹</u> - ½ = "
$\frac{1}{4}$ of $\frac{1}{8}$ - "	{ − . "	∰ + ½ = "
$\frac{1}{8}$ of $\frac{1}{8}$ = "	7 - "	<u>5</u> − ½ = "
$\frac{1}{2}$ of $\frac{1}{6}$ - "	1- "	
1 of 1 - "	{ - "	1- = "
$\frac{1}{4}$ of $\frac{1}{6}$ "	1- "	$\frac{1}{10} + \frac{1}{2} = $ "
$\frac{1}{8}$ of $\frac{1}{8}$ = "	1 – "	$\frac{1}{3} - \frac{3}{10} = $ "
6 is } of what number?	§ - "	25 is § of what number 9
12 is 1 " "	10 - "	36 is 🛊 " "
16 is 🛊 " "	10 = "	45 is 🛔 " 🕶
18 is ½ " "	<u> </u>	77 is ½ " "
9 is 13 " "	10 = "	63 is ⁹ " "
10 is 3 " "	. 18 – "	64 is 🐧 " "





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